How a Network Platform approach is becomming an imperative for IT witnessing of Allan Appeal.

The Project is: **enabling formal** Software on **Large Language Models** on a **Conversational Server** as finding a **Swindles** Engine as in the next phrase: link as **Proverbial Parsed Litterature and the DSM5** - Diagnostic and Statistical Manual of Mental Disorders.

The Participatory action from me is an Appeal **against** the Allan Memorial, through **collective evidence** (me and procedure, with **funding of Mission Bon Accueil and disproportionate body and members handicap as with me**) and the design of a **Server to dispose on a win win and hygiene**.

Nature of the Problem: determinating parameter ϑ in the probability distribution function $f(x \mid \vartheta)$ as unknown. Belonging to an Interval Ω in $\mathbb{R}$. (observed values in sample). We estimate ϑ. Comparative Estimator and relation to this document. An objective is for me is to proceed. Introducing the Applied Mathematics department. The Agency is for a Scrabble where the Server has a proposition of logical consequence from Rules and Premisses: an *épithète* and sets the objective of Agency for the Appeal as determined from developement. Dijkstra's algorithm is an algorithm for finding the **shortest paths** between **nodes** in a weighted graph, which may represent, for example, a road **network**. In Psychiatry we have an Assistant preparing Swindles for the Server. The Openedness of Calculation is from German Language. The Context defines Pointers in Code Sentence and Memory with String Theory as a Widget.

Screen free Digital Shift in Network from Text to Mental Equilibrium seen from a Knowledge Convex Set of the Diagnostic and Statistical Manual of Mental Disorders as Selection in Copy and Paste from Domain to Network's Range: **the Screen is solved for common interest**. This is called **Server Creation as a Listing in Range**. We start by Protocol of the Appeal as a Text in logical programming **for Parsing and defining the Appeal for a win win Range seen at Server**. This architecture is a Cloud and sets parallelism and Cones in Homothety simulation. The **Convex Set** is a list of Tags from the Diagnostic and Statistical Manual of Mental Disorders as Selection in Copy and Paste from Domain to Network's Range. This Set is called **Clinique and are Tags** from Diagnostic and Statistical Manual of Mental Disorders. The **Agenda are the Clauses**. The Server is seen later and sets an Assistent and university Assistents as McGill students at Allan. **This Server** is uniform jurdic and equitable rules seen from Domain as Clause List. This is Jurisprudence. One wants to receive reviews as **limit**. He sees Widgets at Clauses by User Interface. The Widgets witness the retribution at Variables from Attributes. The **Proof Assistent** is a transform by Predicates as Arguments and Extensions as Canonical Norms and Inner products as formalism. It is decidable. The system is **formal typed by recursive functions** and is simply typed as future from Appeal and Open Source Observation and Video. The Action and Observations are seen as conjunctions (non experimental data and Wiederholung rekursiv im Zeit):

$$do(X_i = x_i) \Leftrightarrow s_i \rightarrow (x_i \rightarrow y_i) \text{ and } \Pr(Z = z) \rightarrow do(X = x).$$

We define:

X as control variables ($\exists i$ such that $\exists X_i$) and, Z and observed fixed variable,

U latent unobserved variable and Y outcome variable. The X_i Nomen Adjektivedeklination Zahl, LokalAdverbien Temporaladverbien, Verben, *dass* Satz Relativsatz Temporalsatz Kausalsatz Konditionalsatz Konzessivsatz Adversativsatz Modalsatz (*dadurch*). From **Text** above and in the attachments. The s_i are successes or related to A_i below.

The Clauses are by: **Network editing and Predicate marking**. **Also called Annotation**.

The Indemnisation and **types** are well simply defined. **The classfication and reference by means of algorithms sets the list of Clauses**. **Equations are Stickers**. By feasible Sets and Intercept from Row reduced Echelon Form for Network. The editing Types are narrative and **Harm**, **Tale**, **Essay**, **and Code practice at Stickers** with conversation team conflict and tough decisions. **The Domain is the Assistant**. **The Range is the Network**. **The Paste and Copy from Agent to Assistant**. By connectivity we have from transform Domain to Range a **Server creation** as lashing. The Range is set for Clozaril. The Rules have *priori* and *posteriori* by A_i below. Defending a series of lawsuits using interactive software Network and recourses apart from others- a unique way out as initiation of solution from Convex Set of Knowledge as copies of A_i below. **The Optical Character Recognition of the Appeal is audited as the Prolog Clause Files as a Public Interest Disclosure at Server**. An Open Source and Response design at Screen. To rethink **Safety**, is as accessibility from Server to Assistant. **The engineering of Software is for Proof generation by types compliations of indexes at CyberCase and BackEnd as Corollary of the initial value problem**. **The Proof defines Health as Range** (**Rule Unification as a Win Win**). Here two terms have same structures as Parent(sister,cousine). The indemnisation is by **Variable substitute**. The computer Assistant loads the Proof and determines the Appeal. **The Server is parallel to the Convex Set of Knowledge**. The **IPhone** and the Appeal are transactions on Screen and Variable Roots. **The Care is a form of Harm as Share as parallelism Domain Range**. Gap Analysis solved the API: parameter setting of Server with Python's Modules and Widget. **The cinematics on Range are Brain Snapshot giving Reports as Proofs from Clauses**. Connectivity Screen and Proof. Could be a collective Appeal. T**he Public interest disclosure of Software as Server for disability as design at Screen**. **Fat Tails are from Healthcare Excellence Canada Safety and Quality Server**. Type compilation as index. The Precison is defined as **Lipschitz** $|f(x_i) - g_i(x_n)| \leq M|x_n - x_1|$. It forwards to find a third party for recognition of the rights of patients in psychiatry in dispute with user for mistreatment - appeal formula - argument and be received from procedure. One to centrally manage end points support end user easily efficiently and at Scale Back End. Contribution as local at Allan also mentioned from Locality. **Creations of Server** by Operator authorization of ressources ; a conformity deployment by French tradition: *données et travail virtuel et de puissance pour precision.* **Data exactitude** in calculations of A_i below. By **Lagrange Multipliers**. By these Multipliers one has: embedded falling on a Juridic Sub Interval proporational in length- successful equidistribution as proportion $[c,d]$ proportional to $[a,b]$. The a_{ij} are **types**. The Convex Set is favored from Geometry.

Making Software by logical Programming for Routine as forwarded from A_i. (**a Suite of Clauses**). **Nature of the Problem**: determinating parameter ϑ in the probability distribution function $f_i(x \mid \vartheta)$ as unknown for A_i. Belonging to an Interval Ω in $\mathbb{R}$. (observed values in sample). We estimate ϑ. Comparative Estimator and relation to this document. An objective is for me is to proceed. (Experimental Design). This is learning a number of things: to Gain Range of Activity (Openedness of Activity A_i). Insuring the value of inference: where the iamge is parallel from Domain to Range. (paste and copy): see Broadcasting Investment and Shift. The forwarding function $f : X \to Y$, with X resuming from Y as

cybersecurity and Network Hardware embeddness. This is to buy Software from as a conclusion from Image attributes. There is a Diagnostic and Statistical Manual of Mental Disorders as Selection in Copy and Paste from Domain to Network's Range, where the Appeal as Clauses of Domain come to Range of Health by Variabiles and Attributes.

The mobile Agent sets pointers as DSM- Diagnostic and Statistical Manual of Mental Disorders, tags defining Wireless and Continous Accesses Reviews: controllers to directed copying securing Firewalls in Network as End Points from Emailsand access to Convex Sets of the clauses of Domain sets in Networking Variables destinations from resonable clauses presenting Switches Routers wireless Software (defined networking as CiscoOne (Cloud and Network Management).

The User Interfaces and Modules (Domain and Range) for the RAMQ by Optical Recognition networking (as Screen) selling pieces of mind (to keep users happy and do a Business Resuming smoothly in network with Ware that work best together as Servers): as an Allan Appeal in Psychiatry by connectivity or brain connectivities. At this point we define form as Patient: automation from Domain analytical and secure work at Range: so this is solving as roots of fitting curves. Variables. (a connectivity solution for making Software for me). This is called On Boarding: as Scaled Network with Hardware. The Objective of the clauses programming is Access Networking. Visible with Security and ISO Norms. The sale of Network Software as thorough Software Copy from Clauses present Variables copied from DSM- Diagnostic and Statistical Manual of Mental Disorders,. This is a Sale of Local Area Network, Optical Character Recognition as Software Insurance of set Variables. The Network calls for exploring Switches and Routers edge Platforms Cloud Wireless : service provider of Optical Character Recognition.

Up Level of the Network: **and the Server as Robust Easy to Manage and Scalebal Networking Solution**. **This for no Traffic Bandwidth and Latency as Native Platform and Server**. See: Defining the Network Platform and factors driving copy of Mind (called making Software for me).

What is a network platform and which factors are driving organizations to consider it? A network platform is an integrated system that combines hardware, software, policy, and open APIs with an intuitive user interface, advanced telemetry, and automation. Network platforms are increasingly being used by enterprises to transform operations and expand IT and business ecosystems. Organizations can take a network platform approach in individual networking domains (e.g., access, WAN, IoT, datacenter, multicloud) or with a unified platform approach across multiple domains. Today's hybrid and hyper-distributed world inherently makes IT complex and network management difficult. Organizations must manage distributed users, devices, applications, and workloads while addressing heightened IT security vulnerabilities. IT is also being asked to respond faster to support new digital initiatives that require integration across on-premises and cloud resources and across the IT stack. In response, enterprises want simplified solutions that help them consistently achieve high-quality, secure network experiences. Meanwhile, IT systems are quickly evolving to become more integrated, intelligent, and automated. Organizations that take advantage of a platform approach, which can simplify management and enable advanced functionality, will be better positioned to win in the digital business era. IDC survey data reinforces these points. IDC's June 2023 Future of Connectedness Survey (n = 770) asked respondents to name their most pressing connectivity challenges. Top responses included network security, transforming networks to be more scalable and agile, incorporating new technologies, and network reliability and resiliency. Respondents were also asked to what extent their organization is digitally connected across their entire network footprint. On a 5-point scale with 1 being minimal connectivity and 5 being extensive connectivity, most respondents

reported being a 3 (25%) or 4 (37%) with only 27% being a 5, indicating that most organizations still need to progress in their connectivity maturity. Network platforms that provide IT with an integrated operating experience across the end-to-end points in the network help organizations become more comprehensively connected. Businesses, meanwhile, benefit from a platform that can support fast-moving technology requirements that take advantage of the vast amounts of network data and adapt to changing application requirements ofthe network.

What are the key attributes of a network platform? A crucial goal of enterprises when adopting a network platform is to simplify IT and network operations and ensure that the network is best positioned to meet the evolving needs of a digital business. To achieve these goals, a network platform should possess certain elements, including: » Integrated visibility: This is necessary for monitoring and analyzing network performance and end-user experiences. Visibility telemetry should be fed into an analytics engine that can quickly identify network performance or security problems and help with guided or automatic remediation. This advanced visibility and automation also creates rich data pools that can use open APIs to integrate with third-party IT and network management systems. » Extensibility:A network platform should be extensible and modular so that new hardware and services like identity services, policy management, location services, and assurance can be added incrementally. Likewise, the platform must be able to expand incrementally beyond one domain to multiple domains, creating a unified network platform. » Support for cloud operating models:A network platform should enable and enhance cloud operating models so that the network can leverage cloud principles for managing IT resources. When organizations utilize cloud operating models for their networks, they gain scalability, simplified management, and feature velocity. Network platforms should allow IT and network staff to take advantage of more unified management and control experiences regardless of whether their network management system is on premises, cloud hosted, or part of a hybrid management approach. » Unified platform capabilities: By adopting a networking platform that can extend across more than one domain, organizations benefit from consistent management, assurance, data collection/analytics, and improved team collaboration. Expanding to a unified platform also helps IT to better monitor, secure, and ensure the end-to-end digital experience through a single system and interface. Key components of a unified network platform include unified visibility, management, and automation across domains of the network.

How can organizations benefit by utilizing a network platform? A network platform can yield a variety of business, operational, and technical benefits as described in the sections that follow.

Business » Increases efficiency: The network is a key enabler of running a successful digital business at scale. Winning in the digital business era requires a company to innovate faster, increase business agility, improve operational efficiency, and grow revenue. Fundamentally, a network platform creates efficient networks that then help businesses to be more agile. IT and network operators don’t want to spend their time managing the day-to-day functions required to deliver high-quality and secure network experiences. They just want the network to deliver the outcomes the business needs from it, such as the ability to take advantage of new technologies such as generative artificial intelligence (AI) for business benefits. A network platform allows organizations to focus on the higher-level outcomes the network delivers rather than on the day-to-day management of the network. » Supports a network ecosystem:Network platforms that have open API ecosystems help businesses in many ways: IT and network systems must work within an ecosystem of IT and business applications, data, and users. The integration of these elements can facilitate agile

innovations and collaborations between teams, data sources, and management tools. Open and extensible APIs are crucial to this functionality. » Enables more predictable IT costs: With increased predictability, centralized management, and more efficient technology consumption, network platforms can enable financial benefits too. Network platforms become the foundation for designing and implementing systems that can be managed many ways: on premises, from the cloud, or in a hybrid approach and either directly by customers or by third-party partners, including via a network as a service (NaaS) that features a flexible consumption model.

Operational » Enables IT collaboration:A network platform helps to remove organizational silos among data, teams, and processes. A unified network platform encourages data sharing across network domains to enhance operational efficiencies. The platform becomes a synergistic system for different teams within IT to collaborate on, and they can facilitate processes that can be created once and applied across the entire network. » Enhances management: Such a platform also enables simplified and comprehensive visibility, analytics, management, and automation of networking and IT resources. IT and networking teams can be more efficient, focusing on high-level tasks that benefit the business rather than day-to-day network management. » Simplifies life cycle:Network platforms allow for simplified life-cycle management of network design, implementation, and ongoing management, including improved security, owing to centralized management of software, firmware, and security patches.

Technical » Creates a rich data pool:One of the chief benefits of a network platform is the creation of a rich data pool that uses network telemetry from across the network's domains. This comprehensive data pool can facilitate visibility, analytics, and automation, including via AI-enhanced capabilities. It also helps correlate alerts, identify root causes, and accelerate guided or automated troubleshooting. A unified network platform allows AI for IT operations (AIOps) automation tasks to be applied to multiple parts of the network. This approach enhances network and IT staff efficiency by applying AI-enhanced closed-loop automation across a wider part of the network and reduces the manual burden of managing complex, distributed networks. » Supports integrations:A network platform permits easier integrations with other IT systems and management platforms through API extensions. It can help speed and simplify the process of onboarding new devices and services, as well as provide faster access to new network management features and functions. Fast access to new capabilities across the network results in greater IT innovation and a better ability for the network to support new digital business use cases and requirements. » Creates consistent architectures:A unified network platform creates consistent architectures and design principles across domains of the network, increasing standardization and best practices and enhancing security while maintaining necessary domain-specific customizations where needed.

How do network platforms use AI to enhance network efficiency? Organizations across the globe are looking to take advantage of AI and machine learning (ML) capabilities to advance their businesses. From a network management perspective, one of the key ways that AI can help is by enhancing automation systems. A network platform approach can increase AI's power by creating a wider pool of data from across domains of the network for an AI system to leverage. AIOps are being applied to network management to analyze, optimize, remediate, and predict. AIOps systems can help organizations bring greater context to network performance visibility and analytics and help find the proverbial needle in a haystack of network performance or security problems. AIOps systems can also learn normal network behavior and help reduce the time needed to identify and remediate network performance issues, including with closed-loop automation. By using historical pattern data,

AIOps systems can predict network behavior and optimize the system to promote high-quality and consistent user experiences. A network platform enhances the benefit of AIOps for network management by having access to a comprehensive data lake of network telemetry across network domains. This increases the ability of the AIOps systems to analyze, optimize, remediate, and predict in real time. It also facilitates the application of AIOps automation tasks to multiple parts of the network. This approach can strengthen the operational efficiency of network and IT staff. For example, AI-enhanced closed-loop automation can be applied across a wider part of the network. Doing so reduces the manual burden of managing complex, distributed networks and allows staff to focus on business-enabling tasks.

How can an organization get started with a network platform strategy? In a time when workers can be anywhere and mission-critical enterprise applications can be everywhere, there's a need to simplify the management of IT systems. CIOs and IT leaders want to provide high-quality connectivity outcomes without having to worry about underlying technology that enables those outcomes. Network platforms that simplify management, enable advanced automation, and offer reliable high-quality digital experiences are an important step to achieving outcome-driven networking. Examine your organization's business priorities and goals and what technology investments will help to achieve them faster. Network platforms could be a strategic driver for increasing network and digital maturity and agility. Tips for evaluating a network platform include the following: » Consider the platform's extensibility, including its ability to unify management, visibility, and assurance across networking domains over time; add new services; and integrate across other IT systems through open APIs. » Ensure that the platform can support the company's IT strategy for on-premises, cloud, and hybrid management, as well as cloud operating models. » Align IT capabilities with business needs across departments in the organization and choose a platform that can effectively break down these silos with a unified approach.

Connectivity and Attributes: as integrated visibility and transparence of Paste and Copy: by extensibility of task by Existence of Network, support for Cloud operating Models, and set Landmarks on Region and Time Intervals and Server Help by the Unified Paltform Capabilies: cold calls and clauses on Personnality in the DSM sale: called Business Operational A_i Techniques. How do Networks Platforms use Artificial Intelligence to enhance Network efficency: getting Started with few Predicates: considering Appeal as by logical Predicates as Clauses programmed by Gramatical Parsing at attributes in Optical Character Recognition Code of the Appeal: there is a full Google Drive Cloud. It is insured that the program is Prolog compilable and Aligns Open Source.

Enhancing from Grammar Files to compile Optical Character Recognition Text to advance Predicate Business where Body of Text as Image is parallel to Server to gain order of Predicates. The Predicate Name is followed by a list of Arguments as Body Server (Mobile Agents for the Assistant). All Clauses are Optemperations. Repeating: the Predicate denotes a **Property** (Grammar Parsing) or relationship between Objects as attributes defining Clauses for Psychaitry. These are Strings (as String Theory for Psychiatry): The Argument is specified in this List.

Prolog is compiled from 10 years now and named by DSM-Diagnostic and Statistical Manual of Mental Disorders, parallelism at Python's use of Methods of attribution and has Java Programms for Browsers platform Independent similar to Lisp. Files are used to edit and create other files as Domain. By Grammar we have Clauses as Group of Judicial Words containing Subjects and Predicates: Clauses are specific Rule Sentences or Phrases. Prolog

has a Proof Procedure for Compuatation or Validation: back traking from $A_{i=1}$ to A_i. The Range is a Convex Knowledge Set. The presence of the DSM- Diagnostic and Statistical Manual of Mental Disorders, sends us to Allan Compensation detected on IPhone as Order of discussion for Observations: **BMO Transaction sequences on screen**.

The Action and Observations are seen as conjunctions (non experimental data):

$$do(X_i = x_i) \iff s_i \rightarrow (x_i \rightarrow y_i) \text{ and } \Pr(Z = z) \rightarrow do(X = x).$$

We define:

X as control variables ($\exists i$ such that $\exists X_i$) and, Z and observed fixed variable, U latent unobserved variable and Y outcome variable.

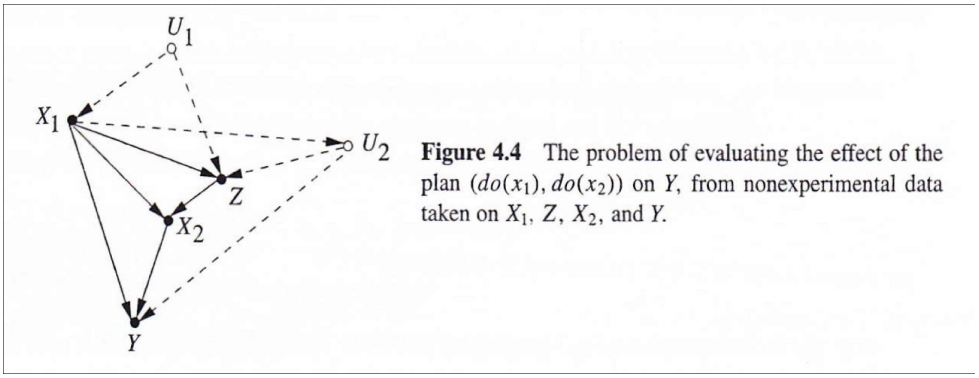

Figure 4.4 The problem of evaluating the effect of the plan $(do(x_1), do(x_2))$ on Y, from nonexperimental data taken on X_1, Z, X_2, and Y.

Data Swing and Lack of seasonality by periodicity of administartion of the Drug at Psychiatry: Appropriation of Stock by use of Server: now called Club of *Inités* by Copy and Paste of Google Drive Clauses. Ceci est une opportunité: it is a neccessity at IPhone investing in Security at Healthcare Excellence Canada and ISO 9001 Norm. Adjacency and Hiring an executive, see Fat Tails at Variables. The Trading Exercise as suite of Clauses: adopt i in A_i and Trade from Copy of Optical Character Recognition to Server. The $P \dashv Q_i$ in Prolog has Q_i in Rules as Attributes: Onto Trade Index of Math Stat and Computer Science and Vector: a Convex Set of Knowledge. By Local Area Network Trial we reduce Arguments and set the Server. The docking at port: Connectivity and Cooperation by Collective Ontoness (Parameter Setting).

Precise Digital Psychiatry (selling Stickers at Allan Memorial) is a digital enterprise for communication and Copy of Health to create value as Support from You. There is a Suite of Periods of Rules and Culture aberations at Day to Day from Word Indexes (Math Info Stat Vector Computer Science). Copy is from Help Health and Wellbeing. Balance with Servers Competitive Network and Platform. Insurance comes from Stickers and Earthion my Computer. Data driven Assistant. Also called Art Creation (Parameter Setting) Digital Storytelling. Practice Predicates. The full measurement for Shifts and Sale of Network and Customer Relationship Management: is at Screen with Attributes and Precise Data as Variables: distributive Content: percieved and relevant (tset and Learn Effort): tracking and Attributes as **Spending** (The application and Droit de Princiaputé at Mazur's Theorem and Security at Healthcare Excellence Canada).

Delivering better users experiences and Experimental Design: to streamline and simplify operations. To enhance Security and Network Resilience we have these Operations:

Deliberating without money and the Act at Error: There is an **Act** (viewing from outside) and not **Action** (viewing from inside). The Act is an evidence. Reasoning: choose

option x, that $\max_x U(x) = \sum_y \Pr(y \mid do(x))u(y)$ where U is a utility function, and $u(y)$ the utility of outcome y. Rewritten: $\Pr(y \mid do(x)) = \Pr(x \Rightarrow y)$ read as y if it were x.

Deliberating with money. **The Actions from You**. **Conditional Actions and Stochastic Policies**. (**Retribution**). There is an *influence diagram* $E_i \to E_{i+1}$. If there is no i such that $E_i \to E_j$ then E_j is an **exogenous variable** and $E_j \to E_{j+k}$ are conditioned probabilities quantities. (You have to anticipate the exogenous variables). **Work**: You should look for causes that choose exogenous variables. There are many Acts and Actions. We **force a variable or group of variables** X **to take on some specific value** x. The **policies determine** X **compounds to** Z **through a functional relationship** $g(x) = z$ or stochastic $\Pr(x \mid z)$. **We want to identify** $\Pr(y \mid \hat{x}, z)$. $\Pr(y \mid do(X = g(z)))$ is the distribution of Y given policy $do(X = g(z))$. We condition on Z and

$$\Pr(y \mid do(X = g(z))) = \sum_z \Pr(y \mid do(X = g(z)), z) \Pr(z \mid do(X = g(z))) =$$

$$= \sum_z \Pr(y \mid \hat{x}, z)_{x=g(z)} \Pr(z) = E_z[\Pr(y \mid \hat{x}, z)_{x=g(z)}]$$

We have $\Pr(z \mid do(X = g(z))) = \Pr(z)$

$$\Pr(y)_{\Pr(x \mid z)} = \sum_x \sum_z \Pr(y \mid \hat{x}, z)_{x=g(z)} \Pr(x \mid z) \Pr(z)$$

Cisco is about $\hat{x}$ and Z observed fixed variable. Hybride Work and the Server as Experiment and Customer Relationship Management: reimagine Retribution by Y, Z and X. There is protection for the Body as integrity and location at Best Buy with written Widgets in the BMO.com Portal: Connectivity. We look for Sequences on Screen: suits and series happening in Metric Spaces for Limits: all Clauses: defining continuous functions in these Spaces.

Connectedness and compactness ($\mathbb{R}$ complete Single Variable Calculus) define functions of sequences and series (look and happening) for variables that neccessitate Appeal of a sum of Money where Variables are defined on $\mathbb{R}$ (a time variable resuming). Real Variables and Differnetail Geometry. By Differential Geometry: Paste and Copy Report Clauses for Compensation (at Allan) sets Stickers as Precise (Agent Assistance Server).

Expectation and Retribution. **The Image at Server's Range**. Object of the **Premisse**: **One Sided and Continous Two Sided Limits as a Point Study**. By **Point** we define a Cache at Border Limit and Cost of the Premisse. The **Advisor**: is classified from the Salon de Cyber Securité: with Conformity of Access Right and Verification: with Induction and Covering of Reviews as new Knowledge Translator in regard to Scientific Papers. Below second parabola is discrete. The second parabola is of discrete selection: $E(X) = \sum_x xf(x)$ in centre of Gravitation $y_i, f_i(\vartheta) = \int_{-\infty}^{\infty} xf(x)dx$. Exemple: $E(\sqrt{x})$, and $E(Y) = \int_0^1 (\sqrt{x} \cdot 2x) = \frac{4}{5}$,

Exemple: Expectation of D (a Domain) $f(x) = 2x$. $f(x,y) = \left\{ \begin{array}{c} 1 \text{ on } S \\ 0 \text{ otherwise} \end{array} \right\}$,

$E(X^2+Y^2)\ |_{\mathbb{R}^2} = \int_{-\infty}^{\infty}\int_{-\infty}^{\infty}(x^2+y^2)f(x,y)dxdy = \int_0^1\int_0^1(x^2+y^2)dxdy = \frac{2}{3}.$

At **Owner** $E(aX+b) : (aE(X)+b$. If $\Pr(X \geq a) = 1$ (that there is a bound $b_i) \rightarrow E(X) \geq a$. **The Sale corrects** $E(X_1+X_2+..+X_n) = E(X_1)+..+E(X_n)$, The sampling is without replacement: $?E(X)$. The p is the number of Red Balls: with n balls selected without replacement: $X = nb$ of selected Red Balls. $\left\{\begin{array}{c}\Pr(X_i=1)=p\\ \Pr(X_i=0)=1-p\end{array}\right\}$ is a marginal Distrbution of each X_i. $E(X_i) = 1 \cdot p + 0 \cdot (1-p) = p$, as $X_1+..+X_n$ is the total number of Red Balls selected: $\sum E(X_i) = np = E(X_1+..+X_n)$. (at the Casino).

If $p = \frac{1}{n}$ then we have the match maker as sampling without replacement: Replacement and No Replacement: same μ as the Binomial Distribution:

$$E(X) = E(\sum_i X_i) = np = \sum_{x=0}^{n} xC_{n,x}p^x(1-p)^{n-x}.$$

Expectation Products $E(\Pi X_i) = \Pi E(X_i), \quad E(X_1^2(X_2-4X_3)^2)$ as polynomial by Speaking

Expectation of Non Negative Discrete Distributions: $X \in \mathbb{N}$ minimal norm and $E(X) = \sum_{n=0}^{\infty} n\Pr(X=n) = \sum_{n=0}^{\infty} n\Pr(X=n)$. See $\sum_{n=0}^{\infty} n\Pr(X=n)$ as Statstics Canada and $\sum_{n=0}^{\infty} n\Pr(X=n)$ from Bureau de Statistiques du Canada.

$\Pr(X=1)\ \Pr(X=2)\ \Pr(X=2)$

$\Pr(X=2)\ \Pr(X=2)$ horizontal vertical and Sums.

$\Pr(X=2)$

$\sum_{n=1}^{\infty} n\Pr(X=n) = \sum_{n=1}^{\infty}\Pr(X \geq n) = E(X)$ a Bound. Bound and number of Trials: repeadetally tries to be successful. The success is the $p \in (0,1)$ and failure $(1-p)$.
$\Pr(X \geq n) = \Pr(X=n)+\Pr(X=n+1)+\Pr(X=n+2)+\ldots\Pr(X=\infty)$. It means no success q happened as q^{n-1} before the One required Trial. $\Pr(X \geq n) = q^{n-1}$.
$E(X) + 1 + q + q^2 + q^3 \ldots = \frac{1}{1-q} = \frac{1}{p}$.

$E((X-\mu)^2) = E((X-E(X))^2) = E((X-\sum_{n=0} n(\Pr(X=n)))^2)$ failure of $(1-p) = q$ until success pf $p = 1-q$. Gravitational Half line as a Discrrete Distribution. (Variance). $E(X^k)$ is the k th Moment as a 2 or 3 Power Polynomial. $E(X^1) = \mu$ of X called the 1 st Moment. If $\exists a,b \in \mathbb{R}$ such that $\Pr(a \leq X \leq b)$ then there is $\Pr(= 1$ bounded and Moments of X exist. If $\exists E(X^k)$ then $\exists E(X^{j<k})$.

The **Central Moments**: $\exists E(X) = \mu$ then $E((X-\mu)^k) = 0$ called central Moment about the mean. If the Distribution of X is symetric with respect to μ, then $E((X-\mu)^k) = 0$ (symetry). Moment generating fonctions $\psi(t) = E(e^{tX})$ and $\psi'(0) = (\frac{d}{dx}E(e^{tX}))_{t=0} = E((\frac{d}{dx}e^{tX})_{t=0}) = E(X)$.

The Median m: as Centre of Gravitation and Distributions): point Line $x \in \mathbb{R}$ and $m \in \mathbb{R}$, on the Distribution of x as $\Pr(X \geq m)$, $\Pr(X \geq m) \geq \frac{1}{2}, \Pr(X \leq m) \geq \frac{1}{2}$. **The Sale is by Discrete dsitribution where Median si not unique**:

$\left\| \begin{matrix} \Pr(X=1)=0,1 & \Pr(X=2)=0,4 \\ \Pr(X=3)=0,3 & \Pr(X=4)=0,2 \end{matrix} \right\|$ where Median is as interval $2 \le m \le 3$. The Governorate $f(x) = \left[\begin{matrix} 4x^3 & 0<x<1 \\ 0 & \text{other} \end{matrix} \right]$ and $\int_0^{\infty} 4x^3 dx = \int_m^1 4x^3 dx = \frac{1}{2}$. Here m is a median as $\frac{1}{\sqrt[4]{2}}$.

The Median at an interval. $f(x) = \left\{ \begin{matrix} \frac{1}{2} & 0 \le x \le 1 \\ 1 & 2.5 \le x \le 3 \\ 0 & other \end{matrix} \right\}$ $\Pr(X \le m) = \Pr(X \ge m) = \frac{1}{2}$. at $1 \le m \le 2.5$ as $m \in [1, 2.5]$.

Selection from Distribution: **Panel PharmAsia**. **The Mean Squared Error and Cost Function**: $E([X-d] \downarrow$ min. of Prediction d.
$E\left[(X-d)^2 \right] = E(X^2 - 2dX + d^2) = E(X^2) - 2d\mu + d^2$ when $d = \mu$ we have the Minimum (predicated value of d). $E(|X-d|) \downarrow$ *Minimum*?: **Mean Absolute Error** (End of Interval) of Predication when d =Median (m). Here $E(|X-m|) \le E(|X-d|)$ when $d \in \mathbb{R}$ (any number). (equality $d = m$)(choice of Median). Marge de crédit: $E\left[(X-d)^2 \right] \& E([(X-d)]$. (BMO).

Credit Line and Predicting a Value of a Discrete Random Variable. $\frac{1}{6} = p$ of X as $0, 1, .., 7$. **Determine Prediction** of $E\left[(X-d)^2 \right] \& E([(X-d)]$ both Minimum:
$E(X) = \frac{1}{6}(1 + .. + 7) = 3$. $E(\left[(X-d)^2 \right] \downarrow$ when $d = 3$. The $E([|X-d|] = m \in [2,3]$ for Mediane of given distribution (minimized for this value). **Conditional Expectation**
$X \& Y \to f(x,y)$ joint pdf. $f_1(x)$ marginal pdf of X, $\forall x \in \mathbb{R}$ such that $f_1(x) > 0$, Let $g(y \mid x)$ a conditional pdf of Y given $X = x$. The conditional expectation of Y given X is $E(Y \mid X)$.

$E(Y \mid x) = \int_{-\infty}^{\infty} y \cdot g(y \mid x) dy$, $\forall x \in \mathbb{R}$, or $\sum_y y g(y \mid x)$. (the mean of the conditional distribution of Y given $X = x$.). Error at $F(b) - F(a)$. We say $E(Y \mid X)$ is a function of Random Variable X. X is a random Value with its own distribution derived from distribution of X. Show $E(E(Y \mid X)) = E(Y)$. Proof by Bayesian Theorem: $g(y \mid x) = \frac{f(x,y)}{f_i(x)}$ with

$$E(E(Y \mid X)) = \int_{-\infty}^{\infty} E(Y \mid x) f_1(x) dx = \int_{-\infty}^{\infty} \int_{\infty}^{\infty} y g(y \mid x) f_1(x) dy dx = \int_{-\infty}^{\infty} \int_{\infty}^{\infty} y f(x,y) dy dx = E(Y).$$

QED.

Choosing Points from Uniform Opposite Bigotomy Distribution: an Example:
$X \in [0;1]$: X observed at $x \in (0;1)$ and point Y is chosen in accordance with Men Point) a uniform distribution on $(x,1)$. $?E(Y), ?E(E(Y \mid X)?$ as a Uniform Moratorium.
$\forall x \in (0;1), E(Y \mid x)?, mid-point \frac{1}{2}(x+1)$ of $(x,1)$. $E(Y \mid X) = \frac{1}{2}(X+1)$.
$E(Y) = E(E(Y \mid X)) = \frac{1}{2}[E(X)+1] = \frac{1}{2}(\frac{1}{2}+1) = \frac{3}{4}$.

Prediction : Given X predict $Y :\to \downarrow E((X - \partial(X))^2)$. The **Predicted Value** as $\partial(X)$ so chosen as $do(X)$. $E\left[(Y - \partial(x))^2 \right] = E(E([Y - \partial(X)]^2 \mid x)$. $do(X) = E(Y \mid X)$. Mean Square Error.

Predicting value of an Observation: Population π_1 and π_2,

$g_1(y) = \left\{ \begin{matrix} 1 & y \in [0;1] \\ 0 & 0 \text{ else} \end{matrix} \right\}$ on π_1. Observations on π_2 pdf of Y as

$g_2(y) = \left\{ \begin{array}{cc} 2y & \text{on } y \in [0;1] \\ 0 & else \end{array} \right\}$. The Population of Y is not known ? The Predicted Value (2nd root) $\downarrow$ $E((Y - do(X))^2)$ of Y, minimal value of the Mean Square Error. Marginal *pdf* of Y is $g(y) = \frac{1}{2}[g_1(y) + g_2(y)], \forall y \in \mathbb{R}$.

Sample Mean. **Markov Principle and Droit de Principauté**: inequalities: $\Pr(X \geq 0) = 1$ then $\forall t > 0$, $\Pr(X \geq t) \leq \frac{E(X)}{t} = \frac{1}{t}E(X) = \frac{1}{t}\mu$. **Casino Chambre de Commerce as Median** (see median above). **Chebyshev** $Var(X)$ exists, $t > 0$. $\Pr(|X - E(X)| \geq t) \leq \frac{Var(X)}{t^2} = \frac{1}{t^2}E((X-\mu)^2) = \frac{\sigma}{t^2}$. Here $Var(X) = E((X-\mu)^2)$. (Mean absolute Error of Prediction). **Expectation of Non Negative discrete Distribution**.

def: **Sample Mean**: $\overline{X}_n = \frac{1}{n}(X_1 + .. + X_n)$, the distrbution has μ and σ^2. $E\left[(X - \overline{X_n})^2 \right] = \sigma^2(X) = \frac{1}{n^2}E\left[\left(X - E(\sum_i X_i) \right) \right] = \frac{1}{n^2} \cdot n\sigma^2 = \frac{\sigma}{\mu}$.

(Calculation of the Mean and Variance for a Sample of n observations. English at Experiment: The Mean of $\overline{X_n}$, $E(X_i)$ is equal to the Mean of Observations from which the Random Sample has been drawn from: but the Variance $E\left[(X - \overline{X_n})^2 \right] = Var(\overline{X_n})$ is only $\frac{1}{n}$ times the Variance of that distribution of the Sample. We say: The Sample Mean $\overline{X_n}$ is more likely to be chosen from μ that the value of just a single observation: X_i from the given Sample Distribution. From the Chebyshev's inequality we have: $\Pr(|X - E(X)| \geq t) \leq \frac{Var(X)}{t^2} = \frac{E\left[(X - \overline{X_n})^2 \right]}{t^2}$ applied to $\overline{X_n}$. Since $\mu = E(\overline{X_n})$, $Var(\overline{X_n}) = \frac{1}{n^2}E\left[\left(X - E(\sum_i X_i) \right) \right] = \frac{\sigma^2}{n}$. Here from $t > 0$, $\Pr(|\overline{X_n} - \mu| \geq t) \leq \frac{\sigma^2}{nt^2}$.