

Rocky Nevin, PhD

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BROAD and DEEP Experience: Engineering – Science – Intellectual Property – Startups

Product Management – strategic, customer-driven startups and patented innovations

Management – I've had the privilege of hiring outstanding talent and nurturing team members.

Development – full-stack software engineer, end-to-end, usually wrote 100% of project code

Security / DevOps – securing networks/machines, next-gen firewalls, vulnerability testing, forensics, IT/networking, automated testing, deployment, performance modeling

ACHIEVEMENTS in brief

- Serial entrepreneur as principal co-founder and employee of startups
- Patents sold to Google
- Teams created and mentored

PAST ROLES

- **Director of Innovation and Security** (Dataguise Inc.)
- **Product Management Senior Innovation Engineer** (Dataguise Inc.)
- **Principal Engineer** Neural-like Network solutions (Dataguise Inc.)
- **CEO/Entrepreneur** (DataSea Inc.): neural-like product, patents sold to Google; eComm 2008 speaker
- **Senior Technical Staff** developed & owned VR CIM (Computer Integrated Manufacturing) system which ran the \$160M+ wafer fab (MicroUnity Systems Engineering Inc.)
- **Staff Scientist** IBM Scientific Center, Palo Alto
- **PhD BioPhysics** UC Berkeley, neural structures
- **Engineer** Special Tests, end-to-end data acquisition/analysis/storage/presentation (IBM PMA Lab)

TECHNICAL SKILLS

- **Software:** Java, Python, C++, SQL, Hadoop, Linux networking/scripting/system-administration ...
- **Instrumentation and hardware:** performance monitoring & tuning, clusters on-prem and cloud
- **Networking and next-generation firewalls:** *e.g.* Palo Alto Networks, Juniper, Ruckus
- **Cyber security:** network, cloud & endpoint vulnerabilities, forensics, DEFCON devotee, certified by KPMG Security to host Salesforce customer data

INTERESTS

- **Innovative, disruptive products:** end-to-end from conception to coding and supporting
- **Product Management:** with strong technical engagement
- **Innovate and build** transparent systems to ease the burdens on customers & internal teams
- **Company success** and personal approach to team problems
- **Security Development:** building innovative tools to assemble chains of events, rather than lists
- **Security Deployment:** planning and hands-on execution for multi-layered security and monitoring

JOB GOALS

- Senior Engineer/Architect or Product Management in forward-looking technologies in, for instance: communications, security, science, medicine, privacy.
- Create new information fusion and processing systems to have machines help and protect us.

EDUCATION

1989 UC Berkeley. Ph.D. BioPhysics

Dissertation "*Morphological Analysis of Neurons in the Cricket Cercal System*"

Developed hardware & software from scratch for computer assisted data acquisition and analysis to correlate form (morphology) and function in the wind-sensing neural network of the cricket.

Created application CANA (Computer Aided NeuroAnatomy).

1978 UC Berkeley. B.A. Physics

EMPLOYMENT HISTORY

Dataguise Inc. (2012-2018)

Director of Innovation and Security (PM Senior Innovation Engineer, Dev' Principal Programmer)

Identified and led critical Security and DevOps efforts:

- Fixed critical gaps in security, network, infrastructure and product build-cycle at Dataguise by leading initiatives to address them:

- security infrastructure & policies, penetration testing, starting with nothing and ending with a security team and layered next-generation security and monitoring

- test Automation, starting with nothing, bringing in-house a world-class expert

- RPM development for product and patch delivery

- Designed and built: Hadoop Monitoring System for the product; stress testing, performance monitoring and instrumentation for internal use

Networking:

- Created & prototyped IP Packet-Chaining (re. identify real source of connections, 'anti-pivoting') for future products

- Implemented Log4j Interception (process events before log files are even written) prototype to lead to real-time blocking of unauthorized access/exfiltration

Responsible for Intellectual Property:

- Both Dataguise patents granted on my watch

Discovery / Masking / Encryption:

Created and integrated into the DgSecure product the reliable discovery of addresses and other sensitive combinations of data from unstructured sources, using my Neural-Like Network (NLN) context-sensitive architecture, solving a critical requirement for our Fortune 500 early-adopter customer.

Co-founder and CEO of DataSea Inc. (Dec 30 2005-present)

Sold 2 patents to Google

Neural-like information representation and processing.

- Wrote the entire DataSea project (Java) and its two granted patents,

- Automated the building and self-testing

- DataSea Inc.'s self-organizing 'inference engine' addressed the problems of giving non-experts sophisticated access to information from blended information sources, including structured (DBs, Calendars...) and natural language sources (spoken and written English, EMail). I loved creating this 'AI' which gave natural language voice or typed access to its fused information repository. I prototyped 'Companion', a Siri-like voice-interactive bot in 2005, 6 years before Apple's Siri release.

- DataSea structures and its processing model are inspired by biological neural networks researched in my PhD dissertation. DataSea software answers specific, compound questions, provides related links of interest, executes queries and commands from natural language interface, faithfully captures and integrates disparate sources and reproduces their original structure, and explains its answers when asked 'why?'. DataSea uses a unique representation for information which allows merging all sources into a 'sea' of data. Active elements can be added and become part of the 'sea' to perform custom functions *e.g.* 'call', to call someone and give them a synthesized voice message from a command like: "call Sue and tell her I'll be late"

Senior Technical Staff, MicroUnity Systems Engineering (1991-1996)

Created and managed the virtual-reality-like Computer Integrated Manufacturing (CIM) system for MicroUnity's wafer fab, "The most sophisticated CIM system I've ever seen" (John Malone, TCI). 31 graphics workstations showed real-time 3-D "aerial" view of the wafer fab 'flying' close to objects like photolithography-steppers, ion-implanters, or wafer-lots disclosed detailed info about them, including active controls to change their state and run data-entry app's. Written in C, SQL, SGL (SGI Graphics Language).

Staff Scientist, IBM Scientific Center (1989-1991)

Post PhD life-science collaboration with UC Berkeley; created a 'Hadoop-like' prototype across RISC workstations and S390 mainframes running distributed AIX (IBM's Unix) including shared memory. Written in C with IBM DCE extensions.

Previously with IBM San Jose, Product Measurement and Analysis Lab: Designed/wrote end-to-end special tests: HW Acquisition, analysis, DB storage; used daily, in-house for 10+ years

PATENTS (Author: Harry W Rocky Nevin III) Covers organizing data from any point-of-view and describes a 'universal' neural-like structure providing the fusion of disparate data sources and allowing inferencing between them, and the automatic assimilation and use of new data.

6,714,936 Method and apparatus for displaying data stored in linked nodes (2004)

8,019,786 Method and apparatus for displaying data stored in linked nodes (2011)

Pending/nonpublish Method and System for Identifying and Securing Sensitive Data Using Context Sensitivity Based On Neural-Like Network Methods (2013)

Extensions by Google 2014-ongoing:

8,799,323 Method and apparatus for displaying data stored in linked nodes (2014)

9,530,227 Method for generating visual data from nodes containing identity data for persons from a set point of view (2016)

9,547,923 Method for generating visual data from nodes containing identify data for individuals from a set view point (2017)

ADDITIONAL INTERESTS

Tallis Designs (Music & Arts related) (1996-2005) Music competitions and recordings, fine arts

Music (award-winning amateur classical pianist)

Radio communications 'Extra Class' ham radio licensed

Neighborhood preparedness (communications director)

Cyber risks to infrastructure, Cyber warfare

Martial Arts (Yogmudo)

I love to:

- get the big picture, fix fundamental problems, quickly and as painlessly as possible: pitch short and long-term solutions to solve important problems faced by businesses and end-users, draw on a broad background in science, computing and organizations to bridge disciplines, create new approaches and architectures and build solutions end-to-end.
- mentor and help the team grow.
- dig deep and fix corporate problems in infrastructure and processes (DevOps), staffing and organizations, business continuity, security breaches.
- create software applications and AI which are *accountable and can explain themselves*: having machines adapt to us, and building in security from the start.

REFERENCES

Dataguise:

VP Engineering (currently with Waterline Data): Venkat Subramanian
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VP Product Management (previously VP Engineering): Subra Ramesh sramesh@dataguise.com
Senior Enterprise Architect: Prateek Sharma prateek@dataguise.com

MicroUnity Systems Engineering:

CEO, Chairman; John Moussouris mouss@microunity.com

Thesis advisor: Prof. John P. Miller, UC Berkeley; currently emeritus Prof. Dept. Cell Biology & Neuroscience and ex-director of Computational Biology jpm@cns.montana.edu