Robert Dubner

42 Hudson River Rd., Saugerties, NY 12477-4416

845-217-5173 • rdubner@dubner.com

Engineer with proven track record in computer programming, computer system design, research and development, project management, and bringing products to market.

CORE COMPETENCIES

- Creating solutions for intractable technical problems
- Rapid mastery of new technologies
- Expert in C/C++, Perl, Python, SQL/MSSQL/C# CLR, and Excel as a system tool (including equations, VBA, and DLL extensions)
- Highly proficient in data structures, algorithms, implementing mathematical models, financial data science, LP/QP optimization, cryptography, real-time systems, and embedded systems
- Expert in the Windows and Linux environments

PROFESSIONAL EXPERIENCE

Chief Technology Officer, PhaseCapital LP. (2017 – 2018)

Brought in as CTO on a new management team while the firm underwent a massive reorganization, reforming in "start-up" mode. The challenge was to maintain continuity of customer service as a new CEO took charge, a number of long-time senior developers left, and the existing data center was shut down. The technical infrastructure, suffering from an inability to scale, required redesign and re-implemention in a new virtualized data center while the company's physical offices moved from Boston to New York City.

- Built and managed the new data center at Amazon Web Services, with servers running Linux, Windows Server, and MSSQL Server. Transferred data and functionality from the existing physical data center to the new virtualized one. Managed conversion of data from existing MySQL database to a redesigned database architecture on the much more appropriate MSSQL database server. Supervised secure decommissioning of the previous data center servers once a period of "running in parallel" showed it was safe to do so. Built tools to support and facilitate financial investment processing.
- Improved and modernized databasing, file storage, and system and network security. Instituted modern coding standards and techniques. Created essential documentation and workflows. Mentored the development team. Established improved connections between PhaseCapital's brokers, account administrators, and data providers.
- Handled concurrently the physical infrastructure requirements (Internet, local networking, telephone, etc.) of moving the company's office between cities, and did this without interrupting investment management or client services.

Vice President, Quantitative Analyst, AllianceBernstein, L.P. (2006 – 2016)

Integral member of a team of quantitative analysts doing advanced research and development in finance and investment. Design, development, deployment, maintenance, and operation of business critical tools for multi-asset-class hedge fund management, including fundamental and quantitative research and analysis, account reconciliation, fund optimization, performance attribution calculations, and client reporting.

- Researched, designed, and developed algorithms for generating daily quantitative signals using the Black-Scholes equation and other proprietary techniques in deriving data from equity, currency, and derivatives securities. Created thousands of SQL stored procedures for fund management and investment research.
- Expanded and maintained the hedge fund optimization engine and the closely related simulation engine used for backtesting against historical data. Responsible for maintaining the integrity of source data, risk models, and databased parameters.
- Developed and improved the many data paths leading to the hedge fund optimizer. Implemented numerous relational database rules and structures in the never-ending effort to eliminate possible database error sources.
- Had full development responsibility for the hedge fund performance attribution system, designed to break down portfolio performance to the level of security risk factors.
- Solved unusual data processing problems caused by outside organizations providing information in e-mailed spreadsheets and .PDF files formatted for human eyes. Relied upon for high level intervention to correct errors.
- Expanded Microsoft's SQL Server with C# CLR (Common Language Runtime) routines for statistical analysis and pseudo random number generation.
- Built a system for reporting early morning fund status in the face of inevitable account reporting and data entry errors.
- Created a system for rapidly generating month-end client reports for over a dozen multi-asset funds.
- Provided daily support to numerous individuals and groups for urgent *ad hoc* analysis and reporting.

President, Dubner International, Inc. (1993 – 2006)

<u>Consultant to Bally Gaming & Systems</u> on the design, development, implementation, and deployment of numerous casino game machine systems and subsystems as the company transitioned from its legacy monolithic designs to a modern flexible architecture. This involved designing and developing interface hardware, Windows applications and device drivers, and significant development work in strong cryptography infrastructure. These technologies increased Bally's competitive advantage by transforming its technology estate, reducing time to market, and reducing operating costs by millions of dollars.

<u>Consultant to Physician Verification Services</u>, a company offering Web-based authentication of licensed physicians to third parties. Created tools for normalizing raw data describing over two million physicians derived from diverse data sources in America and seven other countries.

<u>Other clients:</u> ABC-TV, CBS-TV, QVC, ABC-TV/Microsoft, Martin-Marietta, US Navy Surface Warfare Research Laboratory, Nielsen Media Research.

<u>Products:</u> Scene Stealer, Video Alert, and C.A.D.E.T., video editing productivity enhancement tools.

<u>Research:</u> Advanced the state of the art in number theory research with a series of arithmetic accelerators that produced supercomputer performance in personal computers.

Vice President, Engineering, Dubner Computer Systems, Inc. (1984 – 1992)

Principal engineer conceiving, designing, developing, and bringing to market a groundbreaking, Emmy Award-winning family of character generators, graphics generators, and video processing equipment.

- Led Dubner's hardware team of twenty engineers and technicians; coordinated projects with software engineering teams
- Primary technical liaison between Dubner Computer Systems and its parent companies, The Grass Valley Group and Tektronix
- Conception, design, development, and deployment of countless devices, subroutines, subsystems, and similar support efforts both internally and for Dubner's clients

Hardware and Software Engineer, Dubner Computer Systems, Inc. (1971 – 1983)

Designed and developed numerous real-time systems, embedded systems, and a wide variety of applications and devices, including a banking system for federal credit unions, the first New Jersey state lottery system, real-time display of election results, and a New York City-wide burglar alarm system.

EDUCATION

Massachusetts Institute of Technology, Bachelor of Science, Electrical Engineering, 1975.

PUBLICATIONS & PATENTS HELD

"The Development of a Powerful, Low-Cost Computer for Number Theory Applications," Journal of Recreational Mathematics, Volume 18, Number 2, 1985-1986.

5,077,608	Video effects system able to intersect a 3-D image with a 2-D image
4,969,041	Embedment of data in a video signal
4,870,479	Video graphics memory storage reduction technique
4,849,746	Digital video generator