

Ralph E. Gonzalez

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Software engineer with a wealth of experience developing and delivering high-performance applications: system modeling and integration, data analysis and visualization, optimization, machine learning

Ph.D. in Systems Engineering, University of Pennsylvania

B.S. in Mathematics, University of Delaware

Senior Full Stack Software Developer, September 2019 to present

Chatham Financial, Kennett Square, Pennsylvania

- Design and engineer APIs and end user tools for financial models, .NET platform.

Software Engineer Consultant, February 2008 to present

Hadrian Advisors SAS, Paris

- Manage and conduct research in statistical and heuristic techniques for financial data analysis, risk management, forecasting, visualization, optimization, and backtesting.
- Develop software libraries, tools, and end-user applications using Java, C++, Perl, MySQL.

Senior Software Engineer, August 2015 to June 2019

SevOne, Newark, Delaware

- Design and engineer Apache Spark (Structured Streaming) and Apache Beam streaming pipelines for scalable high performance network monitoring applications, using Scala and Java languages. Deployment on Google Cloud Platform using Docker/Kubernetes/Helm.
- Tune pipeline code and deployment parameters to control system latency.
- Implement API layer and scale/integration tests using Go, Python, Bash, Apache Kafka, MySQL, Cassandra, Cloud Bigtable, Cloud Pub/Sub, GitLab CI.
- Design and engineer multi-threaded C/C++ solutions for high performance data processing.

Senior Java Developer, September 2011 to June 2015

Corporation Service Company, Wilmington, Delaware

- Tech lead and engineer on agile development of internal and outward-facing web applications using Java/Spring, JavaScript, JSP, CSS.
- Tech lead and architect/engineer of Salesforce/APEX integration.
- Application planning and support for stakeholders in Sales, Service, Marketing teams.

Software Engineer, May 2009 to August 2011

Hosting.com, Newark, Delaware

- Tech lead and engineer on agile development of internal and outward-facing web applications using C#/ASP.NET and Java EE platforms.

Senior Software Architect and Mathematician, April 1994 to January 2008

IID Partners, Hamilton, Bermuda

- Research statistical and heuristic techniques for financial data analysis and risk management.
- Develop C/C++ and Perl libraries, tools, and end-user applications, including:
 - *scriptable time series transformation and backtesting system*
 - *binary-tree based system for forecasting and visualization*
 - *heuristic portfolio optimization*
 - *proprietary high-speed time series database*
 - *scriptable distributed task-management*

Software Development Consultant, July 1996

Idealab!, Glendale, California

- Provide collaborative filtering technology and software for web start-up.

Publications and Conference Proceedings

- *QUILT: A Uniform Framework for Programming and Learning*, FLAIRS-95 International Workshop on Intelligent Adaptive Systems, Melbourne Beach, Florida, April 1995
- *An Object-Oriented Library for Hierarchical Animation Sequences*, Computer Graphics, Sept. 1993. Also in Computer Graphics, special on-line issue, May 1993
- *Successive Refinement of Empirical Models*, AAAI-93 Workshop on Learning Action Models, July 1993
- *Learning by On-Line State Space Refinement*, AAAI Spring Symposium on Training Issues in Incremental Learning, Stanford, CA, March 1993
- *Class Libraries for User Interface Management*, Collegiate Microcomputer, Vol. X, No. 4, Nov. 1992

Engineering Skills

- Certified Scrum Developer
- **Languages:** C#, C/C++, Scala, Go, Java EE, APEX, Perl, PHP, Python, Lua, Bash, HTML/CSS, JavaScript, SAS, SQL, Fortran, Basic, Prolog, Lisp, APL
- **Frameworks and Tools:** .NET, Apache Beam, Apache Spark, Kafka, Google Cloud Platform, Salesforce, Spring, Seam, JSF, Qt, Swing/AWT, Tk, jQuery, React.js
- **Environments:** Linux, Solaris, Windows, Macintosh

Interests

Music/acoustics software development and recording, photography, trail running