

# Brian Foley

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## Employment History

### ***Goldman Sachs: July 2008 – Present***

I worked in various positions in the Equity Derivatives Front Office, supporting the single stock and index trading desks. Applications were developed using a proprietary scripting language (slang) and object database (secdb).

#### **Equity Derivatives Strategists (VP)**

Lead a global team working on a RFQ platform. The system was able to accept RFQs from multiple internal and external venues, display them to trading in a uniform manner, and handle all workflow/pricing/booking operations.

- Built an interface to Tradeweb (a multi dealer broker) to allow GS to be one of the first banks to participate in Tradeweb's equity options RFQ offering
- Built out the infrastructure to handle internal RFQs for options and options strategies
- Built the booking infrastructure to allow Listed/Flex/OTC options and options strategies to be booked to traders account
- Deployed an email gateway to allow internal/external clients to email batches of RFQs to a central mailbox for processing
- Worked on a day to day basis with sales and trading to build out new features and fix bugs
- Lead several "core" initiatives to improve the stability and performance of the global RFQ system
- Helped drive the adoption of automated testing of new code releases
- Performed code/architecture reviews of code changes

Formed part of a support rota for all applications developed by our team, including Risk Management, end of day PNL processing, overnight reports, etc

#### **Equity Derivatives Technology (VP)**

Worked closely with traders and operations users to enhance existing applications, retire legacy applications and provide day to day support. Operated as part of a global development team, providing code reviews and feedback to developers in other regions.

Gained significant experience developing applications in an agile environment, with active code review sessions, and an emphasis on code reuse & refactoring.

- Formed part of the global code review team for the firms main Listed options booking application
- Designed and wrote a system for processing exercise and expiry activity, and reconciling such trades with exchange feeds
- Retired legacy systems to allow full migration of booking flow to the firm standard (secdb)

### ***Merrill Lynch: July 2003 – July 2008***

Received Merrill Lynch's "Special Achievement Award" in May 2006 for significant contributions to my team and pioneering the use of "linear programming" in margin calculations.

#### **Java Developer (AVP): August 2006 – July 2008**

Designed and implemented a new calculation component in an existing web service framework. The calculations were used by multiple business units across the bank, and by external clients.

- Integrated new margining calculation into existing WebSphere framework
- Introduced several development best practices to the team. Initiated benchmarking and profiling of the code to identify performance bottlenecks. Prompted the use of junit and xmlunit to construct unit tests and a custom functional test framework.
- Created detailed technical specifications from business requirements and functional specifications
- Used OO Design principles to model financial instruments and calculation components
- Used Linear Programming techniques to optimise result of calculation
- Used the lp\_solve and CPLEX linear programming solvers

## Excel VBA / XSLT Developer (AVP): June 2007 – July 2008

Implemented an excel-based interface to a web service. The excel workbook automatically produced an xml request from a specially formatted input sheet, sent the request to a webservice, parsed the response, and saved the results to the workbook.

- Used VBA for most of the logic, with XSLT for XML manipulation
- Coordinated with the business to create a user-friendly user interface

## Database Developer (Senior Specialist): August 2004 – August 2006

Worked as a database developer on a margining system supporting the International Prime Brokerage business. My role was to add new functionality and fix bugs in an existing MSSQL margining system. The system covered all aspects of the margining lifecycle from feed validation and loading, static data maintenance, calculations and reporting.

- Provided development estimates and participated in project planning
- Implemented calculation logic in Transact-SQL stored procedures
- Performance tuning of existing stored procedures and database structure
- Developed various reporting functions with ASP.net
- Provided second-line production support for user issues
- Implemented improved development practices across the team

## C/UNIX Developer (Specialist): July 2003 – August 2004

Worked on various fixes and enhancements to a Books and Records system for the Prime Brokerage business.

## Internship: June 2002 – September 2002

Performed migration of legacy Access database to SQL Server, which was used to summarise client positions from disparate systems.

## IUAA Results and Entries: January 2001 – Present

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The Irish Universities Athletics Association (IUAA) organises all university-level athletic competitions in Ireland. I volunteered my services to them to help improve their IT infrastructure.

- Designed and developed a suite of applications to manage athletics competitions
- Utilised the open-source LAMP stack (Linux, Apache, MySQL and Perl)
- Developed custom Excel/VBA workbooks to manage athletics meets
- Web-based software to display results and allow online entries

## Laboratory for Nanotechnology, Clemson University: June 2000 – September 2001

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Laboratory assistant at Clemson University's Laboratory for Nanotechnology. My role was to operate a Scanning Tunneling Microscope (STM) to investigate the electronic and structural properties of Carbon Nanotubes. I gained extensive experience with STMs and developed a good working knowledge of carbon nanotubes and their properties.

My work contributed to several peer-reviewed papers:

- Substrate-interface interactions between carbon nanotubes and the supporting substrate, **Physical Review B**; 2002; 66; 033408. R. Czerw, B. Foley, et al
- Identification of Electron Donor States in N-Doped Carbon Nanotubes, **Nano Letters**; 2001; 1(9); 457-460. R. Czerw, M. Terrones, et al
- STM Determinations of Interface Interactions Between Carbon Nanotubes and Support Substrates; **APS March Meeting 2001**, Washington State Convention Center. R. Czerw, B. Foley, et al

## Tools and Languages

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Slang / Secdb (proprietary)	Advanced
Transact SQL	Advanced
SQL Server performance and tuning	Advanced
Linear Programming	Advanced
Java	Intermediate

XML/XSD/XSLT	Intermediate
Perl	Intermediate
UNIX/Linux	Intermediate
Crystal Reports	Intermediate
VBA	Intermediate

## Education & Professional Qualifications

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- MCAD: Designing and Implementing Databases with Microsoft SQL Server 2000 Enterprise Edition: November 2006
- **MSc in High Performance Computing**, Trinity College Dublin: September 2002 – September 2003  
MSc run by the Department of Mathematics, focussing on implementation of mathematical models in a parallel computing environment. Gained experience writing parallel C programs in an MPI environment on a cluster of 512 processors. Thesis title was: '*Using the Island Model Genetic Algorithm to Optimise a Draughts Board Evaluation Function*'
- **BA Mod in Theoretical Physics**, Trinity College Dublin: September 1997 – June 2002