Matthew Hickford

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If you really want to understand something, the best way is to try and explain it to someone else. That forces you to sort it out in your mind. And the more slow and dim-witted your pupil, the more you have to break things down into more and more simple ideas. And that's really the essence of programming. By the time you've sorted out a complicated idea into little steps that even a stupid machine can deal with, you've learned something about it yourself.
—Douglas Adams

Employment

FIS Systems Limited (formerly SunGard) (September 2012 to date)

- Software developer at financial technology enterprise.
- Investigated bugs and implemented new features in libraries and desktop applications comprising Monte Carlo risk engine.
- Presented work to managers at monthly sprint reviews.
- Scrum master for team of nine. Co-ordinated stand-ups, retrospectives and sprint reviews.
- Code subject to review and reviewed others' code.
- Improved testing, writing 300+ unit tests, and refined performance tests.
- Expanded use of continuous integration.
- Documented processes and expertise, writing developer guides for colleagues.
- Connected version control system with issue tracking software.
- Championed new practices, giving talks on functional programming, property-based testing and reactive programming.
- Wrote guide *A learning plan for aspiring developers* to help mentor new starters and colleagues changing roles.

Featurespace (October 2011 to 2012)

- Analyst developer at predictive analytics startup.
- Consulting work developing churn and cross-sell models for retailers.
- Studied machine learning theory and implemented algorithms in code.

Winton Capital Management (4 weeks in 2009 and 6 weeks in 2010)

- Internship and summer work at algorithmic hedge fund.
- Analysed historical time series of financial data with comparison to macroeconomic theory.
- Tested potential trading systems on past data. Described and evaluated each system for review by management.

IBM Extreme Blue internship (12 weeks in 2009)

- Presented project in team of four at international exposition in Rotterdam.

Health Protection Agency (11 weeks in 2008 and 6 weeks in 2007)

- Joined a small team during the design and prototype development of a probabilistic risk assessment tool.
- Wrote report reviewing the previous tools released by the department and advocating the new tool.

Languages

- Taught myself Spanish since 2017. Enjoy conversation and reading fiction. Planning to take SIELE exam.
- Beginner in Modern Greek.

Education

Trinity College, Cambridge University (2007 to 2011)

- Mathematical Tripos Part III, MMath (2011)
- Mathematical Tripos Part II, class 2:1. Senior Scholar (2010)
- Mathematical Tripos Part IB, 1st class. Senior Scholar (2009)
- Mathematical Tripos Part IA, 1st class. Junior Scholar (2008)

John Mason School, Abingdon (2000 to 2007)

- Four A-levels grade A in Maths, Further Maths, Physics and Chemistry (2007), and AS-level French grade C (2006)
- Two S (outstanding) grades in STEP (Sixth-Term Examination Paper) Mathematics II and III (2007)
- 12 GCSEs achieving 8 grade A* and 4 grade A (2005)
- 11 gold certificates in UKMT (United Kingdom Mathematical Trust) Maths Challenges (2000-2007). Competed in British Mathematical Olympiad.
- Attended by invitation the UKMT National Mathematics Summer School at Queen's College, Edgbaston (2005).

Skills

Programming

- 7+ years professional experience with C#, .NET, Visual Studio, Windows Presentation Foundation, Windows Forms, JIRA, Teamcity, Perforce.
- [Competed in Google Code Jam](#)—an international programming competition focusing on algorithms—between 2010 and 2018. Most recently advanced to Round 2 (top 20%).
- Created and maintain open-source Python library *MechanicalSoup* on GitHub.
- Contributed bug reports, documentation and fixes to open source projects. https://github.com/hickford
- Taught myself F#, learning functional programming.
- Contributed 200 questions and 400 answers to Stack Overflow. Top 1% of users in C# and Python tags. https://stackoverflow.com/story/hickford

Teaching

- [Contributor of puzzles](#) to problem solving website Brilliant.org.
- Teaching assistant at a secondary school through Cambridge University's STIMULUS programme (10 afternoons, 2011).
- At university, independently studied combinatorial game theory and delivered midnight seminar to peers (2011).

Interests

Hillwalking, contract bridge.