Markus Mottl, MSc

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Work Experience

07/2010–03/2011	Vice-president in the Morgan Stanley Strats & Modeling (MSSM) division. Implemented and deployed a profitable liquidity-seeking strategy for trading large quantities of futures and ETFs. Researched market imbalance strategies.
10/2004–07/2010	Quantitative software developer at Jane Street Capital, LLC. Worked on regression and model evaluation algorithms, type-safe human-readable as well as efficient binary protocols for low-latency trading applications, long-term data storage, and configuration management. Fault-tolerant distributed computation, high throughput / low latency trading systems, order management and position tracking systems, stochastic volatility models and Monte Carlo estimation.
04/2004–09/2004	Consultant for Jane Street Capital, LLC: developed a fault-tolerant, distributed filesystem for a Linux cluster.
12/2000–4/2003	Research assistant at the Austrian Research Institute for Artificial Intelligence (OFAI), machine learning group. Project: A Modular Approach to Data Mining.
10/1997–10/1998	System administrator at the Institute for Information Business, WU Wien (70 machines; 1000 users; Digital Unix, HP-Unix, Linux, Windows).
Summer 1997	CS-tutor at the Institute for Information Business, WU Wien.
10/1992–4/1993	Military service (mandatory), Austrian Armed Forces.

Education

10/2000–03/2004	PhD-program in Computer Science at the Vienna University of Technology, Austria. All but thesis. Thesis topic: Decision Tree Learning with Structured Data. Advisor: Gerhard Widmer Specialized in artificial intelligence and formal methods.
10/1999–9/2000	MSc in Artificial Intelligence, University of Edinburgh, UK. Thesis: Automating Functional Program Transformation. Advisor: Alan Smaill Graduated with distinction.

10/1993–9/1999	Economics student at the Vienna University of Economics and Business Administration (WU Wien), Austria. Specialized in statistics, operations research and econometrics.
1984–1992	Federal Science Higher Secondary School in Steyr, Austria. Graduated cum laude.

Publications

- Markus Mottl. *Using Algebraic Datatypes as Uniform Representation for Structured Data.* Technical Report TR2003-07, Austrian Research Institute for Artificial Intelligence, March 2003.
- Markus Mottl. *Modeling Large Datasets Using Algebraic Datatypes: A Case Study of the CONFMAN Database.* Technical Report TR2002-27, Austrian Research Institute for Artificial Intelligence, May 2002.

Technical Skills

Programming	OCaml, SML, Haskell, LambdaProlog, Prolog, Lisp, C/C++, SQL, Perl, shell scripts, HTML. Compiler construction tools.
Operating Systems	Linux, Mac OS X, Windows, misc. commercial Unix-systems.

Work Samples (Open Source Projects)

Various open source libraries, applications, and tools popular among both academic and commercial users for machine learning, scientific computing, type-driven code and protocol generation, database connectivity, string processing, etc. Available from homepage.

Soft Skills and Interests

Good Judgment	Super-forecaster for political and economic events for the Good Judgment Project in the IARPA forecasting tournament (Season 1&2 Brier scores: 0.21 and 0.189).
Languages	German (mother tongue), English (fluent), French (conversational), Czech (basic).
Hobbies	Open source development, piano.