CAROLINE TIERNEY MARCKS

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EDUCATION & ACHIEVEMENTS

Tufts University, School of Engineering
Bachelor of Science in Computer Science, Minor in Economics
3.89 GPA

Deans' List All Semesters
Tau Beta Pi inductee in Fall '12, Treasurer Spring '13 - Present

EXPERIENCE

RAPID7, Software Engineering Intern
June '13 - Present

- Developed a "data-playground" that aggregated data from a 8 million documents/hr event source.
- Designed the user interface for said data playground, allowing users to visualize and find new trends in DNS and ingress queries.
- Built an agent and server to analyze filesystems at a useful network level to help detect unusual and potentially dangerous files.
- Developing an internal tool for Rapid7 UserInsight to provide a useful overview of data ranging from the status of deployed software to rates of data collection and customer details.

TUFTS UNIVERSITY CS DEPT., Teaching Assistant
January '13 - May '13

- Directed labs for a data structures introductory course.
- Held office hours and extra help sessions for students.

UNIVERSITY OF ILLINOIS, URBANA-CHAMPAIGN, POP REU Researcher
June '12 - August '12

- Researched parallelization of a quantum Monte Carlo simulation of Schrödinger's equation.
- Implemented a parallelized matrix inversion and update system using CUDA.
- Created a parallel representation of multi-dimensional particle systems with kd trees.

PRUDENTIAL RETIREMENT, Data Analyst Intern & Project Manager
June '11 - September '11

- Managed a proof of concept for an enterprise level database platform.
- Developed tests and analyzed performance results for competing vendors.
- Contributed to cost-benefit analysis of replacing existing platform.

SKILLS

Languages - C, Java, Javascript, C++, HTML, Python, Standard ML, Haskell, Ruby on Rails, CUDA

Other Skills - MongoDB, MySQL, Hibernate, SQLite, Node JS, Backbone, Handlebars, Jade, Bootstrap

RELEVANT COURSEWORK

Advanced Functional Programming*, Software Engineering*, Operating Systems*, Programming Languages, Artificial Intelligence, Networks and Protocols, Web Development, Machine Language Programming, Algorithms, Data Structures (*current courses)

NOTABLE PROJECTS

- **JoeyTracker 2.0 -** Redesigned the Tufts University shuttle tracking system, expected fall '13
- **Hindley-Milner Type Inference -** Added constraint solving and type inference to a language
- **Image Compressor -** Build a compressor and decompressor for portable pixmap images.
- **Universal Machine & Macro Assembler -** Constructed a UM to process assembly code, and implemented a macro assembler to add labels, relocation, and macro operators