Matthew Juan Fowles

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Work Experience

Senior Software Engineer

StreamBase Systems, May 2007 - Present

Developed a compiler and runtime environment for StreamSQL, a complex event process language for high volume, low latency data processing. Designed and implemented direct bytecode compilation, internal data representations, frameworks built on StreamSQL, and type system extensions that added hierarchical and parametrized types. Worked with customers and field engineers prioritizing and designing features.

Software Engineer

Bluefin Robotics, July 2004 - May 2007

Responsible for all software associated with an Autonomous Underwater Vehicle. Created and enhanced topside tools to plan missions, monitor their progress, and analyze collected data. Integrated new sensors into vehicles. Adapted and extended the navigation, dynamic control, and mission execution modules of the vehicles. Managed and extended the configuration of both vehicles and the build system used internally. Defined serial protocols for internally developed sensors.

Clinician and Grader

Swarthmore College, Spring 2003 & Fall 2003

Graded students' homework and ran problem sessions for "Algorithms and Object Oriented Programming"

Engineering Intern

DataViz, Summer 2001 & Summer 2002

Programmed Palm OS and Win32 software, created a distributed system for testing and debugging products, implemented a proof of concept for a radically new feature, currently under non-disclosure agreement

Education

Swarthmore College

Swarthmore, PA, Bachelor of Arts, May 2004
- Mathematics and Computer Science Major
- Graduated High Honors, GPA: 3.6 overall, 3.8 in major

Loomis Chaffee School

Windsor, CT, June 2000
- Graduated *cum laude*

Skills

Fluent in C/C++, Java, Perl, Python, and LaTeX.
Experienced with GUI programming in Qt, cross platform development on Linux and Windows, and some Agile methods.
Practiced at juggling, rock climbing, and kayaking.

Accomplishments

Wrote a C compiler from scratch
Created a face recognition system using singular value decomposition
Designed and implemented a z-buffered, 3D graphics engine with alpha blending from scratch
Designed and implemented a library for type-safe multiple dispatch in C++
Submitted minor patches to Parrot, the Perl6 virtual machine