Casey Stella

Contact Information

Address Available
Upon Request

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Professional Experience

Explorys, Cleveland, OH

Senior Engineer **January 2011 – Present**

Design and implement software to assist in the gathering, preprocessing and analysis of data from hospitals. I am the technical lead for the team whose responsibilities include the care and maintenence of the grid and the data therein.

- Proficiency with modern natural language processing and general machine learning techniques and approaches
- Experience with Hadoop and HBase

Game Communications, Mayfield Heights, OH

Senior Engineer **November 2009 – January 2011**

Designed, implemented and integrated into legacy code a scalable network infrastructure layer for an instant message and VOIP network

- Created a software routing layer and implementing an ordered, reliable protocol on top of the raw network layer
- Integrated Cassandra as a distributed persistent metadata store to provide metadata resolution for network entities on the network
- Created low-level network libraries in C++ and C# to send messages across network
- Spearheaded institution of pair-programming and semi-agile practices

ION Geophysical, Houston, TX

Research Geophysicist **October 2008 – November 2009**

Member of the time processing R&D team, tasked to design, prototype and implement production-ready algorithms to use applied math and signal processing to reduce noise in seismic data. This was a telecommuting position from Cleveland, OH.

- Implemented multithreaded C++ applied linear algebra library consisting of efficient STL-compliant data structures and algorithms to assist in signal processing
- Assisted in the design and implementation of an internal flow-based map-reduce system for doing distributed scientific computation
- Used Tokyo Cabinet to provide an on-disk index of seismic metadata in an efficient way
- Implemented a multidimensional least squares adaptive filter that decreased wall-clock time for our most common seismic task by an order of magnitude
- Developed a fixed-precision algorithm in C for the embedded PowerPC 405 platform which uses first-order statistics to differentiate noise from initial signal in an accurate, efficient and robust way
- Spearheaded institution of pair-programming and semi-agile practices in a geographically dispersed environment

Oracle, Cleveland, OH

Senior Member of Technical Staff **October 2005 – October 2008**

Member of the Oracle Enterprise Repository team. We provided an enterprise J2EE application to organize and manage assets and their metadata.

- Worked as part of a geographically distributed team using agile practices
- Designed and implemented an enterprise build system around Maven, porting an existing heterogeneous build system from Ant and shell scripts to Maven
- Implemented multiple performance and scalability improvements, resulting in substantial benefits deriving from better caching strategies and algorithms with more favorable CPU/Memory complexity characteristics.
- Managed summer interns

Education

Texas A&M University, College Station, TX

Masters of Science in Mathematics **Spring 2005**

- Emphasis in Computational Complexity and Theoretical Computer Science
- Advised by Dr. J. Maurice Rojas

University of Louisiana at Monroe, Monroe, LA

Bachelors of Science in Mathematics and Computer Science **Spring 2002**

Selected Publications, Patents & Talks

J. Maurice Rojas, Frederic Bihan, and Casey Stella
"Faster Real Feasibility via Circuit Discriminants",
In *Proceedings of ISSAC 2009*, pp. 39-46, ACM Press, 2009.

"New Complexity Thresholds for Sparse Real Polynomials",
Sixth International Joint Meeting of AMS and SMM, Invited Talk

"SYSTEM AND METHOD FOR USING AN EDITABLE LIFECYCLE EVENT DISTRIBUTION LIST WITH A SERVICE METADATA REPOSITORY",
Patent pending, Application number 20100057769, Oracle Corporation

Honors and Awards

Outstanding Teaching Assistant [2005]

National Science Foundation VIGRE Fellowship [2004]

AUF & Regents Fellowships for Oustanding Academic Achievement [2003]