

# Casey Stella

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CONTACT      Address Available  
INFORMATION      Upon Request

e-mail: cestella@gmail.com

PROFESSIONAL      **Explorys**, Cleveland, OH  
EXPERIENCE

*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 maintenance 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

J. Maurice Rojas, Frederic Bihan, and Casey Stella

PUBLICATIONS,

“Faster Real Feasibility via Circuit Discriminants”,

PATENTS &

In *Proceedings of ISSAC 2009*, pp. 39-46, ACM Press, 2009.

TALKS

“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

Outstanding Teaching Assistant [2005]

AWARDS

National Science Foundation VIGRE Fellowship [2004]

AUF & Regents Fellowships for Outstanding Academic Achievement [2003]