Jim Fonseca, PhD, PMP

Chicago, IL

jefonseca@gmail.com • https://www.linkedin.com/in/jimfonseca • www.jimfonseca.com

PROFILE

Computational scientist with 10+ years of experience in data analysis and high performance computing across multiple disciplines. Experienced managing products and cross-functional teams, ensuring timely deliverables.

EXPERIENCE

Startup at Plug and Play Tech Center Sunnyvale, CA — September 2017 – present
Technical Advisor

The Data Incubator — April 2017 – June 2017
Scholar

- Completed two month fulltime data science bootcamp with a ~4% acceptance rate
- Coded weekly projects focused on a variety of machine learning processes from data acquisition and cleaning, to model design and evaluation, with datasets up to ~100 GB

Purdue University Network for Computational Nanotechnology
Research Scientist — July 2012 – April 2017
Postdoc — June 2011 – July 2012

- Sped up turnaround time 10x for client's web-based simulation tool by scraping and analyzing data on 10,000s of compute cluster jobs and analyzing usage patterns and suggesting improvements
- Deployed group's NEMO5 semiconductor modeling software on nanoHUB.org, a cyberinfrastructure for nanotechnology research, while curating user experience and leading support team
- Guided team to ensure ongoing 1 and 2-week turnaround times for industry partner deliverables.
- Led design, implementation, and maintenance of testing framework for ensuring build stability, performance reliability, and result consistency of NEMO5 on 500+ tests
- Managed several graduate students on the development of 10+ nanoHUB.org cloud simulation tools

Rush University Medical Center Department of Molecular Biophysics and Physiology
Postdoc, Visiting Assistant Professor — May 2008 – June 2011

- Developed protein simulation software using Monte Carlo algorithms to explain physiological properties of ion channels using high-performance computing systems

Ohio University *Department of Electrical Engineering and Computer Science* — January 2005 – May 2008
Research Assistant

- Analyzed 10s of GBs of atomic trajectories and volumetric electrostatic data from molecular dynamics simulations of the sodium pump (Na^+, K^+-ATPase) using homology modeling of SERCA

SKILLS & EXPERTISE

- Machine learning, high performance computing, project management
- Python, pandas, NumPy, SciPy, scikit-learn, C++, Fortran, Apache Spark, SQL, Hadoop MapReduce, Flask

ACTIVITIES & AWARDS

- Awarded various grants for millions of node-hours on supercomputers (NSF, XSEDE)
- Mentored 13 students for Purdue Summer Undergraduate Research Fellowship (SURF)

EDUCATION

- Ohio University Ph.D., Electrical Engineering & Computer Science — June, 2008
- Ohio University M.S., Electrical Engineering & Computer Science — June, 2004
- Virginia Tech B.S., Computer Engineering, Minor in Computer Science — June, 2001

SCIENTIFIC PUBLICATION SUMMARY

Peer reviewed publications: 13 totaling 200+ citations — h-index: 8