

EMPLOYMENT

Software Developer	BrightTag, Inc.	August 2013 – Present
<ul style="list-style-type: none">• Developing data storage models and algorithms to identify and combine user/client data from multiple sources• Improving back-end interface to distributed NoSQL database (Cassandra) containing over a billion records• Creating a real-time anomaly detection and network traffic forecasting system using Fourier analysis		
Postdoctoral Appointee	Argonne National Laboratory Leadership Computing Facility	March 2012 – August 2013
<ul style="list-style-type: none">• Joint position within University of Chicago research group of Prof. Gregory A. Voth• Optimized massively parallel (~0.4 million cores) chemistry simulations on IBM Blue Gene/Q supercomputer• Devised quantum proton transport model based on electronic structure theory; simulated annealing parameter fitting		
Ph.D. Student Researcher	The Ohio State University	June 2007 – March 2012
<ul style="list-style-type: none">• Published 10 first author journal articles; total 14 publications, 300+ citations, h-index 6 (Google Scholar Citations)• Invented mathematical model for solvent electrostatics, geometrical algorithm for constructing molecule surfaces, stochastic optimization for load balancing numerical integrals; applied to simulate excited electrons in DNA		

EDUCATION

Columbus, OH	The Ohio State University	August 2003 - Spring 2012
<ul style="list-style-type: none">• Ph.D. Computational/Physical Chemistry; Advisor: Prof. John M. Herbert• B.S. Chemistry with minor in Microbiology		
Formal coursework: <ul style="list-style-type: none">– Graduate/undergraduate: Quantum mechanics, Statistical thermodynamics, Computational chemistry, Multivariable calculus, Linear algebra, Differential equations, Computer programming, Numerical methods		
Supplemental online courses: <ul style="list-style-type: none">– Coursera: Machine learning, Data science, Databases; – Udacity: Web development, GPU programming		

TECHNICAL SKILLS

- **Proficient:** Java, Python, C++, C, Unix/Linux shell (bash), awk, NoSQL (Cassandra)
- **Familiar:** HTML, CSS/SCSS, Javascript/jQuery/node.js, SQL (MySQL), Fortran
- **Tools/Miscellaneous:** git, vim, \LaTeX , MPI, OpenMP, Guava, Guice

ADDITIONAL EXPERIENCE/PROJECTS

View some code I have written at GitHub: <https://github.com/awlange>

- **Personal Website** (2013–Present): <http://adrianlange.com> Back-end to front-end; about me and blog (HTML, CSS/SCSS, JavaScript/jQuery/node.js, MySQL)
- **Project Euler** (2013–Present): Recreational mathematics and programming problems for fun from <http://projecteuler.net>; currently solved 86 problems (C++, Python)
- **LAMMPS Ensembles** (2013): Multi-copy communication interface to open-source software, LAMMPS; contributions to main LAMMPS source code (C++, C, MPI, OpenMP, Python)
- **Q-Chem v4.0** (2009–2013): Lead author of polarizable continuum model and QM/MM codes in commercial software package, [Q-Chem](#); One of six software design committee members (C++, C, Fortran)

HONORS AND AWARDS

- Chair's Prime Choice in Computational Division at American Chemical Society Conference (2013)
- Presidential Fellowship from The Ohio State University Graduate School (2011 - 2012; \$33,150)
- Chemical Computing Group Research Excellence Award from American Chemical Society (2012; \$1,150)
- U.S. Department of Energy Merit Scholarship for top poster presentation (2010; \$400)
- American Society for Microbiology Undergraduate Research Fellowship (2006; \$4,000)
- Ohio State Arts & Sciences Undergraduate Honors Research Scholarship (2006; \$3,500)