

EDUCATION

Seattle, WA	University of Washington	June 2015 (Expected)
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- Will graduate with B.S. in Chemistry and Physics with Honors. Major GPA: 3.9.
- Relevant coursework: biology, organic chemistry (with lab), quantum mechanics, biochemistry, linear algebra, thermodynamics, statistical mechanics.
- Self-studied: partial differential equations, machine learning (some), genetics, algorithms.

SAT: 760 Mathematics, 800 Critical Reading, 750 Writing

GRE: 165 Verbal (95%), 168 Quantitative (96%), 5.0 Analytical Writing (93%)

RESEARCH

Undergraduate Researcher	Stoll Lab	Feb. 2013—Present
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- Applied EPR spectroscopy and mathematical and computational analysis to elucidate properties of materials used for organic solar cell construction.
- Constructed EPR sample with novel method producing over 200% improvement in signal strength compared to methods used in literature.
- Used MATLAB to simulate an EPR signal and fit g -value and line broadening parameters to my experimental data with Nelder-Mead simplex fitting.
- Solved the Bloch equations for the steady-state solution to a periodic excitation, leading to a novel method for simulating EPR spectra. Incorporated inter-species interactions into computational model.

Undergraduate Researcher	Computational Biology Research Group	Sum. 2011, Nov. 2013—Present
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- Computationally verified that viral envelope proteins have a significantly larger number of variable cysteine loops using Python scripting to analyze a large dataset of protein data.
- Created client-side “bots” that communicate with each other to correlate an individual’s personal genetic features with drug interactions and effects predicted with the CANDO platform.

Undergraduate Researcher	Kaeberlein Lab	Sept. 2012—Oct. 2013
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- Developed SQL database with JavaScript-based web interface that called server-side R scripts to facilitate easy in-lab data analysis, annotation, and maintenance of multiple experimental datasets.
- Assisted in maintaining the research group’s web site and server and developed software that facilitated data entry of *C. elegans* lifespans.
- Created transgenic strains of *C. elegans* nematode for use in lifespan experiments.

PROJECTS

Class Project	ATM S 380 – Weather/Climate Prediction	Winter 2013
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- Collaboratively applied the Weather and Research Model to the area including the Western Arctic Ocean, North Atlantic Ocean, and Europe with a 40 kilometer resolution and manipulated thickness of sea ice in the model.
- Determined that weather “blocking” is more intense when sea ice thickness is lower, potentially giving a partial explanation for more prolonged extreme weather (via blocking) caused by global warming.

MISCELLANEOUS

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- **Languages:** English (native), Cantonese (native), French (proficient), Mandarin (familiar).
 - **Programming:** Python (proficient), Java (proficient), C# (proficient), MATLAB (proficient), C++ (familiar), C (familiar), PHP (familiar).
 - **Interests:** High performance computing, computational biology, applied mathematics, finance.
 - **Awards:** AIME qualifier.