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Douglas Franz, Ph.D.

Professional Summary

- Experienced computational scientist with a demonstrated history of development, maintenance and deployment in several languages/platforms, resulting in internationally used scientific software with >1,000 downloads per year.
- Strong leadership skills and experience managing research professionals resulting in 10 publications in peer-reviewed journals and acquisition of >$800k in government grant funding.
- Effective communicator and instructor, excellent interpersonal skills, project planning and execution. Collaborative lead on international research projects in India, Ireland and China. Active mentor to >5 graduate researchers; teacher/instructor to hundreds of undergraduate students.

Work Experience

2014-2019 **Computational Scientist** University of South Florida Dept. of Chemistry

- Performed computational/theoretical research using large datasets to create machine-learning predictive models for molecular simulation.
- Created a full open-source molecular simulation package (https://github.com/khavernathy/mcmd) including a GUI for live visualization of simulation results using new and more efficient techniques.

2014-2019 **Chemistry Instructor** University of South Florida Dept. of Chemistry

- Gave lectures and guided laboratory courses for 30-200 students per semester in physical, organic, general and introductory chemistry.
- Improved laboratory course outline based on student feedback and performance analyses.

2009-2019 **Software Developer** Equiday, Inc. (now Allovue, Inc.) and others

- Coordinated with Chief Technical Officer to develop a web application for budget allocation of school districts nationwide using a new student-centric algorithm – optimizing in the allocation of >$100M of educational funding.
- Independently created applications on web, desktop and mobile platforms in many languages for clients large and small.

Education

- B.S. Environmental Science & Policy 2014 *U. South Florida*
- Ph.D. Computational/Physical Chemistry 2019 *U. South Florida*

Technical Skills

C, C++, python	MATLAB	Git, SVN	Javascript, jQuery
Algorithm design	Parallel computing	SQL-type databases	Web/app development
Fluency in Spanish	Android development	Machine-learning	Arduino, raspberry pi
Electronics	Statistical modeling	Scientific writing	MVC, OOP paradigms

Awards

- USF Presidential Scholars Award (2009, 2010)
- USF Undergraduate Research Scholarship (2009, 2010)
- Fred L. & Helen Tharp Endowed Scholarship (2010)
- Outstanding Undergraduate Research Presentation Award, Environmental Sciences, Florida Academy of Sciences (2011)
- Study Abroad Scholarship for study in Germany (Universität Osnabrück) (2013)
- Martin Travel Award for Graduate Research (to U. Texas at Austin) (USF) (2015)
- First Place Research Talk, USF Chemistry Castle Research Conference (2016)
- Alexiou Award in Environmental Chemistry, USF Dept. of Chemistry (2017)

Service/Leadership

- Research Conference Committee planning chair, USF Castle Conf. (2016- 2019)
- University Lab and Field Safety Committee Member, USF (2014 – pres.)
- Environmental Health & Lab Safety Committee Member, Dept. of Chemistry, USF (2014 – pres.)