Phillip Mestas

github.com/xMestas

RELEVANT EXPERIENCE

Software Engineering Intern, Google Inc., Seattle, WA   **2019**
- Designed and implemented a stateless RPC component for making canonical Google Compute Engine end-to-end test framework functionality useful to other teams using Python and proprietary Google technology.
- Incorporated key software engineering concepts such as extensibility, testability, and maintainability in a real-world solution.
- Onboarded and deployed two key utilities used by about 2,000 test targets into a custom RPC component and rolled them out to the test framework.

Engineering Practicum Intern, Google Inc., Mountain View, CA   **2018**
- Created a monitoring dashboard for the Google Play Suggest pipeline that runs on Google infrastructure using a Python server, allowing the team to visualize jobs that have been run and quickly identify and address issues with the pipeline.
- Designed and implemented Google Play Suggest server functionality that improves filtering of suggestions at scale, while also providing users with higher quality suggestions.
- Used C++ and Google technology best practices to perform major refactors on the Google Play Suggest backend, making the code safer as well as easier to read and maintain.
- Worked on a distributed backend system, writing code optimized to reduce latency and scale to hundreds of millions of users.

Research Assistant, Niemeyer Research Group, Corvallis, OR   **2017-Present**
- Worked part time during school and full time over the summer as a member of Dr. Kyle Niemeyer's Thermal-Fluid Sciences research group at Oregon State University.
- Developed Python software to simplify complex models for combustion reactions using graph algorithms.
- Published this software in The Journal of Open Source Software.
- Conducted experiments to compare the effectiveness of various chemical kinetic model reduction algorithms.
- Presented a paper to other researchers at the WSSCI Fall Technical Meeting in 2017 and 2019.

Research Assistant, Systems, Security, and Hacking Lab, Corvallis, OR 2019-Present
- Undertook multiple research projects in Dr. Yeongjin Jang's cybersecurity research group at Oregon State University.
- Contributed to the development of a software solution to a security vulnerability in AMD CPUs.
- Read relevant papers and attended the 2020 Network and Distributed System Security Symposium to keep up with cutting edge research in the field.

Teaching Assistant, Oregon State University, Corvallis, OR   **2017-2020**
- Helped students understand the material of the introduction to computer science courses at Oregon State University through heading labs and grading assignments.

Vice President, Delta Tau Delta, Corvallis, OR   **2016-2020**
- Served as a founding father and member of the executive board of the Delta Tau Delta chapter at Oregon State University by managing the organization of events, leading internal operations, and overseeing the administrative board consisting of 12 members.
- Lead the fraternity to receive multiple awards from the national organization, including most improved chapter, and court of honor, an award given to the top 20 chapters in the nation out of over 130 chapters.

EDUCATION

BS in Computer Science, Oregon State University, Corvallis, OR   June 2020
GPA: 4.0
MS in Computer Science, Oregon State University, Corvallis, OR   June 2021
GPA: 4.0

PUBLICATIONS

Mestas et al., (2019). pyMARS: automatically reducing chemical kinetic models in Python. Journal of Open Source Software, 4(41), 1543, https://doi.org/10.21105/joss.01543

Mestas PO, Clayton P, Niemeyer KE. "Comparing mechanism reduction methods with pyMARS: Python-based Model Automatic Reduction Software." 2019 Fall Technical Meeting of the Western States Section of the Combustion Institute, Albuquerque, NM, USA. October 2019

Mestas PO, Clayton P, Niemeyer KE. "pyMARS: An open software package for reducing chemical kinetics models." 2017 Fall Technical Meeting of the Western States Section of the Combustion Institute, Laramie, WY, USA. October 2017

VOLUNTEER EXPERIENCE

Volunteer Income Tax Assistant, OSU IRS VITA Site, Corvallis, OR   2019
- Completed an advanced certification course in tax preparation.
- Filed taxes for low income families by performing information intake, tax preparation, and quality review.

Volunteer, JDRF, Corvallis, OR   2017-2019
- Helped in the organization, planning and execution of a JDRF sponsored walk to raise money for type one diabetes research in May of 2017, 2018, and 2019.

NOTABLE ACHIEVEMENTS

Drucilla Shepard Smith Scholastic Award, Oregon State University	2017, 2018, 2019
Waldo-Cummings Award, Oregon State University	2017
Ford Scholar, Ford Family Foundation	2016
3rd Place; Business Financial Plan, National FBLA-PBL	2016
1st Place; Business Financial Plan, Oregon FBLA-PBL	2016

AFFILIATIONS & INVOLVEMENT

Member, Oregon State University Robotics Club, Corvallis OR   2016-2017