Noah Reef

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Education

California State Polytechnic University, Pomona *Pomona, CA*

B.S. in Applied Mathematics with minor in Computer Science *August 2019 - May 2024*

- **GPA:** 3.86 / 4.00
- Courses: Data Structures & Algorithms, Introduction to Object Oriented Programming, Calculus I & II, Multivariable Calculus, and Linear Algebra and Differential Equations, Combinatorics, Introduction to Probability & Statistics

Skills

Programming Python (Pandas, NumPy, Scikit-learn. etc.), MATLAB, C/C++, Julia , Java, SQL.

Miscellaneous Linux, Shell (Bash/Zsh), LaTeX(Overleaf/R Markdown), Microsoft Office, Git.

Work & Experience

Learning Resource Center *Cal Poly Pomona*

Subject Tutor *Jan. 2022 - Present*

- Held one-on-one tutoring sessions with students
- Tutored both Mathematics and Computer Science courses
- Prepare and host workshops covering course material

NSA Future Computing Summer Internship *Laboratory of Physical Sciences*

Intern Researcher *Jun. 2023 - Aug. 2023*

- Collaborated with a team of interns and NSA technical experts in research and implementation of the Delta-Stepping SSSP Graph Algorithm using the YGM library
  - **Link:** https://github.com/LLNL/ygm/tree/develop
- Presented research and results to academia and NSA technical experts
- Co-authored a technical paper covering the results of benchmark experiments comparing the efficiency of our SSSP algorithm implementation
- Worked closely with *Lawrence Livermore National Laboratory* library maintainers to develop our algorithm and address existing bugs in the library
- Used Python to generate experiment graphs and C++ for algorithm implementation
- Utilized High-Performance Computing (HPC) for Parallelization

NSF REU in Big Data Security & Privacy *Cal Poly Pomona*

Researcher *Jun. 2022 - Aug. 2022*

- Developed a machine learning model for detecting malware in encrypted network traffic
- Used Python and Scikit Learn to develop machine learning model
- Manipulated and Cleaned up datasets using Pandas
- Utilized High-Performance Computing (HPC) cluster for model computations using BASH
- Won First Place at Cybersecurity & Awarness Fair Poster Presentation
  - **Link:** https://www.cpp.edu/cyberfair/poster-information/poster-winners-2022.shtml
  - **Link:** https://github.com/Noah-B-Reef/CPP-Cybersecurity-Fair-2022/tree/main

Extracurricular Activities

Society for Industrial and Applied Mathematics Cal Poly Pomona Student Chapter

Chapter President *Jun 2023 - Present*

- As President of the SIAM Chapter at CPP some of my responsibilities included: arranging both officer and general meetings, delegating tasks to other officers, arranging for speakers to give research talks to our chapter, arranging collaborations with other clubs on campus for campus-wide events, and communicating with regulatory bodies on-campus.

CPP Robotics Club

Simultaneous Localization and Mapping (SLAM) Robot Project lead/co-lead *2020-2021*

- As Project Lead it was my job to develop workshops and tutorials for members on how to program in Python, download and work in a Ubuntu Virtual Machine Environment, and work with the Robotics Operating System (ROS) to program to the Turtlebot.

References available upon request.