BrianVargas

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about

Oceanside, CA
USA

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languages

English
Spanish
German

computing

Python
C, C++, Fortran
MATLAB, R, Maple
Git, Unix, LaTeX

mathematics

Numerical Analysis
Applied Linear Algebra
Computer Algebra
Linear Optimization
Quantum Algorithms

computer science

Data Structures
Software Engineering
Parallel Programming
Machine Learning

statistics

Statistical Computing
Regression Analysis
Analysis of Variance

education

2017-2018 **California State University, San Marcos** — Master of Science
Mathematics
GPA: 3.95

2016-2016 **University of California, Santa Cruz** — Graduate Coursework
Scientific Computing & Applied Mathematics
GPA: 3.65

2011-2015 **University of California, Davis** — Bachelor of Science
Mathematical & Scientific Computation
Statistics Minor

2007-2011 **Guajome Park Academy** — High School Diploma
International Baccalaureate Diploma
Summa Cum Laude

experience

05/18-08/18 **Sandia National Laboratories** — R&D Graduate Intern
Researching and testing various algorithms in Python for two projects. Developing a low resolution indexing data structure to effectively handle and rapidly query big data collected for cybersecurity. Developing a fully automatic supervised discretization package for predictive business analytics.

01/17- **California State University, San Marcos** — Teaching Associate
Creating and presenting lesson plans, authoring course materials, developing course syllabus, proctoring examinations, and overall management of the course. Have taught four university courses to this date, titled entry-level mathematics and beginning algebra

09/17- **CSU San Marcos Department of Mathematics** — Graduate Assistant
Supplementing courses in numerical analysis & graph theory by creating and presenting lessons for students to complete learning objectives during discussion sections, holding additional office hours, and grading homework submissions. Position is awarded to students who demonstrate commitment to professionalism, integrity, and academic achievement.

02/13-06/14 **UC Davis Department of Engineering: Applied Science** — Research Assistant
Developed data reduction software for interference data obtained from an all-reflective spatial heterodyne spectrometer - NASA supported interferometry technology. Implemented Python code to efficiently and effectively handle, process, and analyze the data using a QT4 framework. Enhanced algorithms regarding Fourier analysis, 2D image processing, noise analysis & reduction.

07/13-09/13 **UC Davis Department of Mathematics** — Undergraduate Research Assistant
Participated in competitive REU alongside a team of undergraduates under Dr. Jesus DeLoera to prototype and test variations of the Chubanov feasibility algorithm, an integer programming concept. MATLAB implementations tested for accuracy and efficiency in application to market split problems. Heavily referenced mathematical research journals and employed public speaking skills in an academic setting.