

Daniel Guo

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EDUCATION

UNIVERSITY OF CALIFORNIA SANTA BARBARA

B.S. IN COMPUTER SCIENCE

B.S. IN MATHEMATICS

Expected June 2022 | GPA: 3.94

College of Creative Studies | Honors

SKILLS

LANGUAGES

Python • C++ • Java • C • LaTeX

LIBRARIES

PyTorch • NumPy • Matplotlib • Flask

Java AWT & Swing • OpenMP & Pthreads

TECHNOLOGIES

Git • Linux • Vim • Jupyter Notebook

COURSEWORK

COMPUTER SCIENCE

Algorithms

Data Structures

Computer Programming & Organization

Machine Learning

Parallel Scientific Computing

Computer Architecture

Automata & Formal Languages

Blockchain & Distributed Ledgers

MATHEMATICS

Discrete Math

Probability & Statistics

Combinatorics

Linear Algebra

Abstract Algebra

Real Analysis

Multivariable Calculus

Differential Equations

GRADUATE COURSES

Logic in Computer Science

Post-Quantum Cryptography

LINKS

Github: github.com/d-guo

LinkedIn: [linkedin.com/in/d-guo](https://www.linkedin.com/in/d-guo)

Blog: danielguo.dev

PROJECTS

hiwhatsyourname | FLASK WEB APP

- Users create online business cards and can share it with a QR code.
- Implemented backend with Python Flask to process requests and generate a web business card & a QR code using Jinja & qrcode API.
- Project for CalHacks 2020.

2D Laplacian Modeling | PAID RESEARCH PROJECT

- Built periodic convolutional neural networks in PyTorch to model the Laplacian differential operator for 2 dimensional functions.
- Used Jupyter Notebook and Matplotlib for neat visualization of training.
- Sponsored by the NSF and SUF fellowship.

GenNet | GENETIC ALGORITHM + NEURAL NETWORKS

- Implemented architecture & hyperparameter search for neural networks using a genetic algorithm with PyTorch.
- Applied algorithm on MNIST dataset and achieved 96.6% classification accuracy with only a few minutes of training on CPU.

Link Check Bot | REDDIT BOT

- Parses Reddit posts and detects broken links.
- Uses praw Reddit API and urllib to get error code from website.

RESEARCH

Data-Driven Learning of Differential Operators | U.G. RESEARCHER

Nov. 2018 – Present | Santa Barbara, CA

Working with Dr. Paul Atzberger in the mathematics department to build neural networks to model differential operators. Gave talk at 2019 RACA conference.

OTHER EXPERIENCE

Teaching Assistant for CS 130B – Algorithms

Jan. 2020 – Mar. 2020 | UC Santa Barbara

Host open lab hours for students to come in and ask for help with homework and programming assignments. Work with professor and TAs to improve class.

Grader/Reader for MATH 8 – Intro. to Higher Math

Jan. 2020 – Mar. 2020 | UC Santa Barbara

Grade homework and offer feedback to students in Math 8.

College of Creative Studies Community Council Officer

Nov. 2019 – Present | UC Santa Barbara

Plan events for CCS students. Cohosted the first CCS Integration Bee.

AWARDS & ACTIVITIES

2020 UCSB SciOly Fermi & Code Busters Event Supervisor

2018 Top 35% in Putnam Mathematics Competition

2018 Ohlone Certificate of Accomplishment in Pure Mathematics

2018 Lockheed Martin CodeQuest & Stanford ProCo Coding Competitions