DANIEL GUO

4087670880 | dguo@ucsb.edu | linkedin/in/d-guo | github.com/d-guo | danielguo.dev

EDUCATION

University of California Santa Barbara September 2018 – June 2022
B.S. Computer Science, B.S. Mathematics GPA: 3.93/4.00

Selected Coursework: Algorithms, Data Structures, Machine Learning, Parallel Computing, Distributed Systems, Discrete Math, Probability & Statistics, Combinatorics, Analysis, Algebra, Topology, Cryptography, Formal Logic

EXPERIENCE

Semiotic AI | Research and Development Intern June 2020 – Present
· Building tool in Python to convert ONNX models to Microsoft SEAL execution for encrypted inference.
· Developing Python library add-on to PyTorch for private AI (neural networks) development.
· Created HE compatible neural network to diagnose heart conditions from on ECG signals.
· Completed private neural network for detecting fraudulent credit card transactions with encrypted inference.
· Improved prediction accuracy and increased F1 score from 56% to 86% using normalization techniques.
· Researched and read papers on FHE and private AI, specifically on optimizing activation functions.

UCSB Research Group | UG Researcher under Dr. Atzberger Nov. 2018 – Present
· Building convolutional neural networks in PyTorch to learn differential operators from raw and simulation data.
· Gave talk at 2019 RACA conference about CNNs for the 2D Laplacian. Won 2019 SUF Resarch Grant.

CS130B Teaching Assistant | Algorithms and Data Structures Jan. 2020 – Mar. 2020
· Held discussions and office hours to reinforce students' understanding of algorithms and data structures.
· Created and graded homework and exams. Provided students with timely feedback.

CCS Computing Mentor Nov. 2019 – Mar. 2020
· Advise incoming freshmen studying computer science in CCS on projects and research interests.

PROJECTS

hiwhatsyourname | Python, Flask, SQL-Alchemy, Jinja2, HTML5, CSS3, QR code, GCP App Engine
· Deployed web app on Google Cloud where users can create virtual business cards to be shared with a QR code.
· Managed database with SQL-Alchemy and generated static sites and QR codes with Jinja2 and QR code api.

Trading Bot | Python, Requests, Alpaca Web API, Microsoft Azure Function
· Deployed algorithmic trading bot with Azure Function to discover market trends and place orders twice a day.
· Wrote Python wrapper to send requests to Alpaca's web API to place orders and retrieve stock information.

GenNet | Python, PyTorch
· Created genetic algorithm to optimize neural network architecture and hyperparameters for training in PyTorch.
· Achieved over 96.6% accuracy on MNIST in under 2 minutes of training.

talkie | C, Sockets
· Implemented Regev's public key encryption using TCP sockets to send encrypted messages with command line.

SKILLS

Languages	Python, C++, C, C#, Java, Javascript, HTML5, CSS3, LaTeX
Frameworks and Libraries	PyTorch, Flask, Scikit-Learn, NumPy, Pandas, Matplotlib, Alpaca
Technologies	Git, Linux, Bash, Vim, Jupyter, Google Colab, Agile, GCP, Microsoft Azure

OTHER INVOLVEMENTS

SB Hacks VII Organizer - Sponsorships Coordinator 2020
CLAS Math Tutor 2020
CCS Student Body Executive Officer 2019 – Present
UCSB Science Olympiad Fermi and Code Busters Event Supervisor 2019, 2020
Programming competitions: CodeQuest by Lockheed Martin, ProCo by Stanford University 2018