Pavan Gudavalli

720-990-9110 | pavan.gudavalli001@gmail.com | www.linkedin.com/in/pavan-gudavalli | https://github.com/PABSIRR

Education

University of California, Los Angeles — **Los Angeles, CA**
Bachelor of Science in Computer Science, Bachelor of Science in Math/Econ — September 2023 - June 2027
GPA: *3.7/4.0,* Theta Xi Fraternity
Relevant Coursework: *Parallel Programming, Linear Algebra, Operating Systems, Software Construction, Programming Languages, Machine Learning, Electrical Circuits, Probability Theory, Computer Networks, Logic Design*

Fairview High School — **Boulder, CO**
IB Diploma, IB Mentor Project Director, COSLI, National Honor Society VP — August 2019 - May 2023
GPA: *4.00/4.00,* SAT: *1600*

Professional Experience

Machine Learning Intern — **New York City, New York(Remote)**
Bridge Investment Group — June 2024 - September 2024
- Identified potential features drawn from multiple cleaned MBS datasets over the past 10 years through **PCA** and regression analysis that affect Conditional Prepayment Rates(CPR) over 3 month windows.
- Developed a ML model combining decision trees, clustering, and kernelization to predict CPR with 95% accuracy.
- Prototyped a neural network with **Tensorflow** to benchmark performance and explore nonlinear patterns.

Software Development Intern — **Boulder, CO**
National Oceanic and Atmospheric Administration — May 2022 - September 2022
- Developed box models to forecast methane changes in the near future through feature selection on worldwide 30-year NOAA datasets with **Python** and **IDL** resulting in a 20% increase in modeling capability.
- Analyzed changes in seasonal methane cycle amplitudes through regression methods to consult the *Global Monitoring Laboratory* on changes in NOAA's approaches to methane mitigation.

Other Experience

Client Outreach Lead / Web Developer — **Los Angeles, CA**
Bruin Tennis Consulting — September 2023 - Present
- Prototyped a novel tagging system for tennis points incorporating coordinate data.
- Developed a website to view matches with tagged data using **React**, **Node**, and **Firebase**.
- Utilized **Jupyter** and **Excel** to clean and store tennis data to create visuals with **R**, **Figma**, and **D3.js**

UCLA Learning Assistant - CS 35L — **Los Angeles, CA**
UCLA LA Program — May 2024 - Present
- Helped teach CS 35L to 160+ students through creating slideshows, lecturing, and having office hours.
- Created an online notes repository with **Github Pages** and **Markdown** for students to access.
- Created interactive worksheets to teach Git, Python, React, C, Emacs, Bash, and general software principles.

Projects

UCLA Student Media - Bruinwalk | *Django, Docker, MERN, Kubernetes* — September 2023 - Pres
- Maintained a full-stack **Django** application with extensive **Docker** containerization
- Deployed website with 10K+ avg users monthly allowing for community based class / professor ratings.
- Added features allowing users to group classes / reviews through creating new models, views, and templates.

Optimized Matrix Multiplication | *CUDA, AWS EC2, MPI, FPGA, OpenMP* — April 2025
- Used **Makefile / C++** to create a testing suite for different matrix multiplcation kernel convolution methods.
- Utilized **CUDA, MPI, OpenMP, HLS FPGA** on different AWS EC2 instances to test different optimizations on different parallel programming methods to achieve an increase of x1000 gflops.

Bop-it | *Verilog, Vivado, Xilinix, FPGA* — April 2025
- Used **Verilog, Vivado** to create an FPGA-playable game based on Bop-It with audio, visual, and tactile support.

Skills & Interests

Languages: Java, Python, C/C++, SQL, Javascript/HTML/CSS, R, Ocaml, Bash
Frameworks/Tools: React, Node.js, CUDA, Git, Docker, MongoDB, Jupyter, AWS(EC2, S3), Tableau, Linux
Interests: Amateur Golf, Competitive Brawl Stars, Park Run Training, Summiting High Peaks, Traveling
Honors: AIME 4x, ARML Div B 1st Place, Eagle Scout