Manu Bhat

Self-motivated Software Engineer seeking summer 2024 internship. Particularly proficient in applying mathematical thinking to well-polished projects and investigating new ideas.

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Work Experience

MaXentric Technologies - Embedded Software Engineer Intern (June 2023 - September 2023)

- Applied DSP to automate calibration of radars and modified FreeRTOS firmware to allow loading of factors via SD card.
- Developed custom UDP-based data transfer script to track packet loss on a V band network.
- Utilized Wireshark and JTAG interfaces for intricate debugging.

Breakout Mentors – Competitive Programming Tutor (November 2022 - Present)

- Teaching advanced data structures and algorithms (e.g. LCA, dynamic programming) in one-on-one sessions.
- Developed Axum backend server and React frontend that host custom made problems and grade student submissions

Neuro Leap - Software Engineer Intern (November 2022 - June 2023)

- Used standard DevOps pipeline (vcs, CICD, etc) to make SwiftUI iOS app for instructors diagnosing mental illnesses.
- Coordinated with backend team to design REST API.

Education

University of California San Diego - 3.97 U/W GPA, 4.0 U/W Major GPA (September 2022 - June 2026)

- Studying for a B.S. in Mathematics and Computer Engineering
- Relevant courses: Computer Systems, Analog Circuits, Data structures and Algorithms.

Cupertino High School – 4.0 U/W GPA (August 2018 - June 2022)

- Relevant courses: AP CS, Calculus BC, Physics C, Biology, Statistics (5 on all AP tests).

Other Experience

UCSD Spatiotemporal Lab – Undergraduate Researcher (December 2022 - Present)

- Researching how deep learning and linear sum assignment can be used to approximate distributions of chaotic systems.
- Project is a follow up of Professor Rose Yu's work and focuses on turbulent fluid flow using PyTorch.

UCSD ICPC - Member (February 2023 - Present)

- Practicing competitive programming in preparation for international collegiate programming contest

Canvas Walk – Technology Officer (September 2022 - January 2023)

- Used HM-10 chip to develop an iBeacon-based proximity tracking app for museums. Engineered 3D-printed case.

Distribution GAN – Solo Developer (July 2022 - August 2022)

- Applied TensorFlow to design and implement a variant of GANs that fights mode collapse.

CHS Admin Submission Viewer – Codeveloper (May 2022 - September 2022)

- Selected by CHS teachers to write an Electron admin tool that views, filters, and downloads submissions from the school's updated APCS website.

Game Development Club and MelonJam – President (August 2019 - June 2022)

- Coordinated a team of officers to teach game dev (Unity/C#) and host 100+ member game jams.

Skills/Frameworks

Programming Languages: Rust 2021/ C++ 14/ C 99/ Swift 5/ Python 3/ Java 1.8/ Typescript
Frameworks: Metal, OpenGL, React, SwiftUI, MySQL, Unity, PyTorch, Numpy, Electron, Linux, Vim, Zsh, Git, LLDB, AWS
Computer Science: Algorithms/Data Structures, AI/ML, Compilers, Networks, Databases, Web/App Dev
Soft Skills: Proactive, Timely (rarely procrastinate), Open to Criticism, Adaptable

Honors

USA Computing Olympiad - Platinum Division (December 2022)
picoCTF 2023 - Top 15% globally (March 2023)