Alex Mehta

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EDUCATION

University of California, Berkeley Exp. 2027
B.S. Electrical Engineering & Computer Science, B.S. Business Administration
Relevant Coursework: EECS 16A, CS 61A, UGBA 196, UGBA 10X
Activities: Open Computing Facility Staff, Cal Archery Team, AI Entrepreneurs at Berkeley

EXPERIENCE

Berkeley Artificial Intelligence Research Group (Computational Imaging Lab) September 2024 - Present
Research Assistant

- Investigating zero-shot null space guided diffusion models for inverse problems to prevent hallucinations
- Wrote PyTorch PnP & GD optimization for lensless photography for high fidelity unsupervised reconstruction (35+ PSNR)

BU Signal Transformation and Information Representation Group June 2023 - Present
Research Intern

- Developed unsupervised DEQ for inverse problems with +10% PSNR with zero parameter increase
- Formulated peak resolution algorithm for Particle Beam Microscopes for 1.5x bias reduction and presented poster
- Built framework for analysis of convergence for algorithms such as ADMM for plug-and-play (PnP) reconstruction

Project: Empower May 2022 - July 2024
President

- Founded 501(c)3 non-profit with 3000+ active community members and 300+ volunteers
- Coordinated marketing and development of Illuminate, accumulating 310k users and 5.1M website visits
- Organized Empower Hacks 2.0 ($209,667 in sponsorships; 1,900 attendees) & Empower Hacks ($112k in sponsorships; 600 attendees)
- Launched chapter system of 65+ student-led chapters spanning 10 countries

University of Pennsylvania GRASP Lab May 2022 - December 2023
ML Researcher

- Collaborated with PhD candidate to develop Localized Attention TCN model that allows for 10x memory reduction with performance improvements on long sequence signals
- Implemented Algorithm in PyTorch for videos, achieving state of the art results (+25% avg baseline improvement)
- Won Best Presentation Award at ICVIP 2023 for Paper/Presentation (Selected from 15 PhD student presentations)

PROJECTS/COMMUNITY INVOLVEMENT

Blue Origin (Contract Strategy Consultant)

- Generated proposals to help increase free cash flow above $3B by 2030
- Provided research analysis on potential Space Manufacturing applications such as ZBLAN and superalloys

NextStep (Lead Software Engineer)

- Led development of a full-stack recommendation platform using Next.js and Supabase, enhancing student engagement by providing tailored resources
- Redesigned UI/UX using NextUI and Figma in order to attract over 4,000 visits and 300 active users

Theia Blind Assistive Device

- Built novel audio based blind assistive device that was tested on 15+ participants and wrote paper outlining device study and open-source assembly instructions
- Won Silicon Valley Science Fair Category Award (1st), California State Science Fair (2nd), Northern California JSHS Engineering Category Award (1st)

AWARDS

Hackathons: British Computing Society Anthony Parker Memorial Prize, Innovation Award & Most Practical Award – OCDSB Hackathon, 2nd – STEMist Hackathon
FBLA: 5th Nationals – Networking Infrastructures, 6th Nationals – Introduction to IT, 1st States – Intro to IT

SKILLS/INTERESTS

Skills – PyTorch, Python, Java, Linux (RHEL, Debian derivatives), Proxmox, Git, CI/CD, SQL, Spring Boot, LaTeX
Interests – Compound Archery, Entrepreneurship, Assistive Technology