Prakhar Gupta

linkedin.com/in/prakg

prakhar7@illinois.edu
(447) 902-1521
Champaign, IL

Education

University of Illinois Urbana Champaign Expected: 2026
Computer Engineering, B.S. , James Scholar, Dean's List *GPA: 3.8/4.0*

Coursework: Operating Systems, DSP, ASP, Vector-Space SP (grad-level), Systems Programming, Data Structures & Algorithims, Neural Circuits and Systems

Skills

- **Languages:** Python, C/C++, SystemVerilog, Assembly, JavaScript
- **Libraries/Frameworks:** ROS, PyTorch, Docker, Linux, AWS, Scipy, Numpy, Pandas, Django, Git, Websockets, Node.js
- **Hardware:** STM32, USB, CAN, UART, Vivado, KiCad

Work Experience

- **Course Assistant** Jan 2024 - Present
  Honors Analog Signal Processing
  - Organized weekly lectures, and office hours to assist students with queries on advanced course material
- **Undergraduate Research Assistant** Jan 2023 - Present
  Mobility and Fall Prevention Research Laboratory
  - Deployed a scientific computing pipeline to a HPC cluster. Automated result verification and slurm jobs with shell scripting
  - Maintained data-acquisition library to collect and synchronize serial data from medical instrumentation.
  - Developed performance-driven tools using cupy, for signal-processing and network analysis
  - Worked on conference submissions for applications in computational healthcare
- **Full Stack Intern** Jun - Aug 2023
  Indian Institute of Technology
  - Developed front-end user systems and the authorization microservice for a full-scale internal platform
  - Implemented end-to-end services within an MVC architecture using Express, MongoDB, and other full-stack toolkits
  - Wrote and tested API endpoints with Postman, and implemented a real-time pub-sub service with websockets
- **IT Consultant (L2)** Sep 2022 - April 2023
  Engineering IT - University of Illinois
  - Used sysadmin tools inlcuding AD, SCCM, and MECM to configure and support enterprise PC networks
  - Worked with automated imaging build and deploy tools in Jenkins. Used IPAM for subnet management
  - Configured drivers, and security settings for servers, remote containerization service, and other campus infrastructure

Engineering Experiences

Open-Source at Illinois	President	Increased member participation by 50% YoY, fund availability by 25%. Organized workshops to increase contributions to FOSS and popularize linux usage. Led several project teams to build projects including a compute cluster, AI chatbot, and computer vision project
EV Concept	Controls Team	Implemented USB to CAN protocol using STM32. Configured and set up docker containers and ROS environments for Nvidia Jetson and PC. Implemented MPC models using Nav to control steering and acceleration
RISC-V Hackathon	RV32I	Used the RV32I ISA to debug test files, write machine-mode exception handlers. Generated automated tests using the AAPG scripting library. Studied existing implementations of Out-of-order machines utilizing RV32I architecture
Health Maker Hackathon	1st Place	Designed embedded system utilizing the TI ULC1001 to clear vision in laparoscopic camera probes for surgical procedures. Awarded $5000 by Carle College of Medicine
Pulse	Treasurer	Raised an additional 40% in funding for the conference. Worked with university administration to budget, purchase materials, and process transactions for the conference