

Parth Mittal

Pursuing BS in Computer Science — Cornell University — Co May '28

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Experience

Research Intern

Phi Dynamics

Remote, USA

May 2025 – Aug 2025

- Used Guix for reproducible builds; created custom channel and forked dependencies to meet build reqs
- Implemented LLVM IR “namify” pass to standardize variable names; made IR the single source of truth
- Derived ASP facts and rules from LLVM IR and CFG for query-based path enumeration; persisted JSON intermediate for later fact/rule updates, supporting incremental recomputation and rapid fuzzer feedback.
- Designed a feedback-driven architecture for high-frequency fuzzer polling with incremental ASP fact updates

Research Intern

Spin Drift Technologies

Remote, U.S.A.

Nov 2025 - Present

- Contributed to development of an autonomous navigation drone in a GPS-denied environment.
- Developing a VISLAM library for GPS-denied localization and closed-loop flight testing by May 2026.

Cyber250 Project - National Lead

U.S. Space Force - i5

New York, U.S.A.

Nov 2024 - Present

- Led the development of the Cyber250 course, an advanced hands-on cybersecurity training program under i5 Space in conjunction with the U.S. Space Force's Space Training and Readiness Command (STARCOM).
- Managed a team of contributors, coordinating curriculum development while handling Controlled Unclassified Information (CUI) securely to deliver comprehensive cybersecurity education to students nationwide.

Head of Education

Cornell Cybersecurity Club

New York, U.S.A.

Feb 2025 - Present

- Founded senior education; organized weekly meetings for top performers for technical discussions on critical cybersecurity topics and tackle advanced cybersecurity challenges, ranging from web to binary exploitation.
- Assembled a team to perform in prestigious cybersecurity competitions like ISTS and other CTFs.

Projects

Undergraduate Researcher (Scientific Software Development)

Cornell University — Sibley School of Mechanical and Aerospace Engineering

New York, U.S.A.

Sep 2025 - Dec 2025

- Ported legacy IDL scientific software to Python for the Gemini Planet Imager (GPI) 2.0 software upgrade, resolving defects during migration and refactoring, improving correctness and robustness of control logic.
- Developed and integrated subsystem interfaces within a larger instrument-control codebase.

Networks Lead - Wirefree Comms

MIT Lincoln Lab - Socom Ignite

New York, U.S.A.

Sep 2024 – Apr 2025

- Developed a secure short-range radio transceiver tailored for various military applications.
- Led networks development, innovating communication protocols and spec to enhance security and reliability

Open Source Contribution

Public Python Libraries | Pyloggor, KucoinPy, KucoinOBM, typekeeper

Around the Globe

Oct 2022 - Jul 2025

- Built and maintained libraries for HFT & data infra; 1k+ first-week, 50k+ lifetime downloads
- Engineered KucoinPy to manage exchange communications via low-level TCP sockets; delivered order-execution latency of 20 ms avg with 9 ms peaks, surpassing typical industry benchmarks consistently.
- Simplified live market-data maintenance with async low-overhead streaming over unix domain sockets
- Developed supporting tooling: Pyloggor for robust structured logging and typekeeper for Python type-safety

Skills

Leadership, Linux Proficiency, Networking, Cryptography, Penetration Testing, MicroPython, Python, Java, Flask, FastAPI, Selenium, Docker, SQLite, RPI, NRF, RP2040, PN532, Guix