

Pranav Chiploonkar

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Systems administrator specializing in Linux infrastructure, virtualization, networking, and secure service deployment. Complemented by formal training in data science and high-performance computing workflows.

TECHNICAL SKILLS

Operating Systems: Linux (Desktop/Server), Microsoft Windows, macOS, Android (Bionic libc, adb, custom ROMs)
Infrastructure: VPS provisioning, backup strategy, filesystems, rsync, systemd, Caddy, DNS configuration
Networking: TCP/IP, DNS records, SSH, VPN, forward/reverse proxies, SMTP/IMAP, NNTP, Telnet
Security: SSH/OpenPGP/GPG key management, Email auth (DMARC/DKIM/SPF), LUKS encryption, Firewalls
Virtualization: Docker, Docker Compose, QEMU/KVM, Hyper-V
Scripting: Bash, Git, Python (matplotlib, numpy, scikit-learn), Jupyter, SQL, CUDA, \LaTeX , HTML, Markdown

INFRASTRUCTURE EXPERIENCE

Linux Infrastructure Administration Sep 2021 – Present
Independent Projects & Deployments Tucson, AZ/Remote

- Provisioned multi-node WireGuard mesh (Tailscale) across North America and Europe.
- Deployed production services with systemd and Docker Compose; managed DNS records and automated TLS.
- Enforced default-deny firewall, GPG-backed key access, and least-privilege service isolation.
- Implemented LUKS encryption, btrfs snapshots, rsync mirroring, and E2EE off-site backups.
- Optimized systems with x86-64-v3 builds, scheduler tuning, and compressed swap (zram).
- Maintained patching, uptime monitoring, and technical documentation.

Open Infrastructure Contributions Aug 2025 – Present
Distributed Computing, Decentralized Networks, Digital Preservation Tucson, AZ/Remote

- Operated high-bandwidth Tor relay (Fast/Stable/Guard); retired Jan 2026 due to provider constraints.
- Maintained high-uptime Invisible Internet Project (I2P) routing infrastructure.
- Hosted Rust-based Matrix homeserver with federation endpoints and DNS delegation.
- Contributed 6,500+ CPU hours to BOINC (Berkeley Open Infrastructure for Network Computing).
- Provided compute for large-scale web archival of at-risk digital content (Archive Team).

Other Projects | *Python, systemd, Ollama* June 2023 – Present

- Built GPLv3 multimodal AI platform integrating GPT-4, voice, vision, async messaging, and web frontend.
- Winner of 24-Hour Biosphere 2 AI Challenge (Hack Arizona 2025); developed secure peer-to-peer distributed LLM system with vectorized database to process mock sensor data on consumer-grade hardware.

PROFESSIONAL EXPERIENCE

Software Engineering Intern May 2024 – Aug 2024
Clear Core LLC | *Python, Node.js, ArangoDB* Tucson, AZ

- Developed a Python-based proof-of-concept natural language query engine integrating OpenAI function-calling.
- Evaluated multiple LLM providers; conducted performance and reliability testing across query scenarios.
- Designed a benchmarking suite to compare model-generated queries against deterministic AQL outputs.
- Collaborated within an Agile team to integrate backend LLM tooling with a Node.js-based front-end interface.

RESEARCH EXPERIENCE

Research in Cosmology Aug 2023 – Present
Dr. Andres Salcedo, Dr. Tim Eifler, Dr. Gurtina Besla; Steward Observatory Tucson, AZ

- Developed data-reduction and modeling pipelines using Python in high-performance computing environments.
- Applied dimensionality reduction techniques to large simulation datasets; optimized data inference.
- Co-author on peer-reviewed publication (Salcedo et al. 2025); additional first-author work in progress.
- Presented results in academic symposia and research conferences, including a poster at AAS 247 (2026).

EDUCATION

University of Arizona Expected May 2027
GPA 3.11 | *Bachelor of Science in Astronomy; Minor in Physics, Minor in Mathematics* Tucson, AZ

Scholarships & Awards

- Weaver Award for Undergraduate Research in Physics (2023, 2024, 2025); Rainey Scholarship (2024)
- TAP Travel Grant (2026); Galileo Circle (2024); Glen C. Purviance (2023); Arizona Excellence (2022)