

VIVEK PRAKASH

Computational Biology • Bioinformatics • AI-Assisted Development • Linux • DevOps • Backend & Full-Stack Development

Professional Summary

Computational Biology & Bioinformatics researcher and Linux/Backend engineer with 3+ years of hands-on experience in Linux administration, cloud infrastructure, containerization, workflow automation, genomic data analysis, and backend/full-stack development. Experienced in Python and Bash scripting, reproducible bioinformatics workflows, Docker/Conda, AI-assisted software development with Cline and Roo Code, and deployment of web/backend applications.

Technical Skills

Operating Systems: Linux (Ubuntu, CentOS), Windows

Programming & Scripting: Python, Bash / Shell Scripting, JavaScript, Perl, R

Web & Backend Development: Node.js, Express.js, MERN Stack, Django, REST API Concepts, PHP (LAMP/XAMPP), Apache, Nginx, JWT Authentication

Cloud, DevOps & Virtualization: Docker, Portainer, Portainer Mobile, Docker Manager Mobile, AWS EC2, DigitalOcean, Google Cloud Platform, GitHub Pages, Heroku, Git & GitHub, GitLab, VirtualBox

Networking & Security: SSH, SCP/SFTP, FileZilla, TCP/IP, DNS, DHCP, Tailscale, ProtonVPN, SSL Configuration

SQL Databases: MySQL, PostgreSQL

NoSQL Databases: MongoDB Atlas, Express.js Integration

Monitoring & Productivity Tools: Bitwarden, VS Code, Jupyter Notebook, Notion, Markdown, LaTeX, LibreOffice, Overleaf

Machine Learning & Data Tools: pandas, NumPy, matplotlib, scikit-learn

AI-Assisted Development: Cline, Roo Code, GitHub Copilot, LLM-assisted coding, prompt-driven development, AI workflow integration, local/remote development workflows

Professional Experience

Backend Tech Support (Freelancer) | Paras Art Studio, Delhi | Aug 2020 – May 2024

- Installed and configured Ubuntu/CentOS systems with secure remote access using VNC.
- Managed AWS EC2 instances and secure file transfer systems using SSH/SCP/SFTP.
- Performed shell scripting, CRON-based automation, monitoring, backup, and deployment tasks.

Teacher cum Computer Operator | Margshree School, Delhi | Jun 2019 – Mar 2020

- Maintained records using LibreOffice tools.
- Assisted with hardware/software troubleshooting in computer labs.

Projects

VivLabs.tech Portfolio Platform

- Developed and deployed a modern portfolio platform with custom .tech domain integration.
- Built secure backend services with Node.js and Express.js.
- Integrated MongoDB Atlas database and JWT-based admin authentication.

Workflow Automation & Deployment Systems

- Built automation workflows for deployment and reproducible environments.
- Managed Docker containers using Portainer and mobile container management applications.
- Created Python and shell-based automation scripts for system operations and backups.

Academic & Research Experience

PhD Researcher – Computational Biology & Bioinformatics | Central University of Himachal Pradesh

- Designed Python-based genomic and biological data analysis workflows.
- Applied Docker and Conda for reproducible research environments.
- Prepared technical documentation, research proposals, and review manuscripts.
- Conducted microbial genome analysis using QUAST, CheckM2, GTDB-Tk, Prokka, antiSMASH and eggNOG-mapper.
- Developing reproducible computational workflows and exploring AI/biological foundation models for genomic research.

Education

PhD (Pursuing) – Computational Biology & Bioinformatics | Central University of Himachal Pradesh

M.Sc. Bioinformatics (First Division) | Jamia Millia Islamia | 2017 – 2019

B.Sc. (Hons.) Botany | Hansraj College, University of Delhi | 2013 – 2016

Certifications

Certificate in Artificial Intelligence & Quantitative Aptitude – CUHP

Certificate Course in Fundamentals of AI

Linux Administration, Bash Fundamentals & Networking – Udemy

Python & Windows Server Administration – Udemy

Additional Competencies

Workflow automation & reproducible environments

Technical documentation & proposal drafting

Linux-based deployment and server management

Strong analytical and troubleshooting skills