Pavithra Rajan

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Education

New York University   **August 2025 – May 2027**
Master of Science in Computer Science, **CGPA: 4.00/4.00**   *Brooklyn, New York*
- **Coursework:** Algorithms, Cloud Computing, Information Security and Privacy

National Institute of Technology, Calicut   **July 2019 – May 2023**
Bachelor of Technology in Computer Science and Engineering, **CGPA: 3.82/4.00**   *Kerala, India*
- Served as **Secretary** of the **Computer Science and Engineering Association** and the **Literary & Debating Club**. Also served as Lead Coordinator for **FOSSMeet** 2023, a flagship Free and Open Source Software event.
- NITCAMP Mentor, **first-runner up** in Code-Init 2021, NITCkathon 2023, InfinityHacks 2023, and **JPMorgan Code for Good** 2021 participant.

Technical Skills

Languages: Python, Golang, Bash, C++/C
Administration Expertise: Enterprise Github, ELK Stack, Linux, GPFS
Technologies/Frameworks: Puppet, ReactJS, Flutter, Grafana, Prometheus, FastAPI, HashiCorp Vault, AWS (RDS, DynamoDB, EC2, Lambda, Lex, SQS, EKS, CloudFormation), Docker, Semgrep, OpenAI API, Gemini

Experience

D.E Shaw & Co., Site Reliability Engineering - Linux   **July 2023 – July 2025**
Senior Member, Tech (Jan 2025 – July 2025) — Member, Tech (July 2023 – Dec 2024)   *Hyderabad, India*
- Administered **6,000+ RHEL** servers with privileged root access; executed releases across **300+ infrastructure servers** and independently led RHEL7 to RHEL8 migration for provisioning, SFTP, and utility servers.
- Managed a **900TB ELK** production cluster as one of five administrators. Collaborated on migration from SearchGuard to Elastic Security by developing scripts and implementing critical configuration changes. Improved cluster storage efficiency by **12%** through **GPFS** snapshotting and automated offline snapshot workflows.
- Spearheaded **GitHub Enterprise Server** operations as one of three global administrators, supporting **1,600+ repositories** and **2,000+ users**; led upgrades, deployed infrastructure for Dependabot and GitHub Actions runners, and served as the primary escalation point of contact.

D.E Shaw & Co.   **May 2022 – July 2022**
Systems Engineering Intern   *Hyderabad, India*
- Designed and developed a **Certificate Manager** to manage the lifecycle of X.509 certificates for the firm's internal websites and services. Reduced operational toil of SRE engineers in the firm by approximately **35 hours** each month.

Publications

Proof-of-Variable-Authority: A Blockchain Consensus Mechanism for Securing IoT Networks | *LNCS, Springer* 🔗
- Designed a **custom blockchain consensus mechanism** with a robust **PKI system** to secure IoT networks, enabling seamless **device authentication** through device certificates. Developed a **Proof-of-Concept** to demonstrate the end-to-end functionality of the design.

Select Projects

Zone ⌨ | *FastAPI, React*   **Dec 2025**
- Owned end-to-end delivery of an AI-powered scheduling system that uses the Gemini Flash 2.5 to translate natural-language tasks into optimized Google Calendar time blocks for **ODSC AI Hackathon**
- Drove system design and execution across frontend and backend, defining APIs, architecture, and prompt workflows for task parsing, prioritization, and scheduling decisions.
- Led planning, prioritization, and creation of clear technical documentation and a polished demo under tight timelines.

VulCAN ⌨ | *JavaScript, AWS Fargate, SQS, SES, S3, RDS, Flask, Semgrep*   **Oct 2025**
- Developed a scalable and asynchronous **vulnerability scanning platform** for on-demand analysis of GitHub repositories.
- Integrated industry-standard **SAST tool** (Semgrep) to automate the detection, classification, and historical tracking of code vulnerabilities across versions.
- Implemented feature to generate **contextual AI suggestions** and recommended fixes for detected code snippets, reducing the time required for developers to remediate security issues.

swimiNIT ⌨ | *Flutter*   **Apr 2022**
- Developed a mobile app to manage NITC's swimming pool users and employees by applying the **SDLC principles**, documenting feasibility, SRS, design specifications, and test cases.