# Preethi Kotturu

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## PROFESSIONAL SUMMARY

Software Engineer with experience designing, building, and maintaining scalable systems across frontend, backend, and cloud infrastructure. Proficient in working with distributed and serverless architectures, automation, and system-level problem solving. Brings exposure to applied AI/ML systems and a strong focus on writing reliable, production-quality software in collaborative engineering teams.

## SKILLS

**Programming Languages**: C, C++, C#, JavaScript, Java, Python, PowerShell, Bash, MATLAB
**Machine Learning & AI Engineering**: PyTorch, TensorFlow, Keras, Scikit-learn, Pandas, NumPy, ResNet, CNN, OpenCV, Neural Networks, Deep Learning
**Generative AI & NLP**: Transformers, LangChain, RAG, LLMs, Fine-Tuning, Prompt Engineering, Language Modeling, NLP, AI Agents
**Databases, Tools, OS & Other Concepts**: PostgreSQL, MongoDB, Git/GitHub, Linux, Docker, Kubernetes, Terraform, Jenkins, Windows, MacOS, Linux/Unix, RTOS, Cloud computing (AWS)
**Web Development**: HTML, CSS, XML, ReactJS, Node.JS, Express.JS, JSON, Spring Boot, Spring Framework, REST API'

## WORK EXPERIENCE

**Software Development Engineer** — Jul 2023 – Jul 2024
*Broadridge Financial Solutions* — *Telangana, India*
- Engineered JavaScript and PowerShell automation scripts that reduced client report navigation time by 75% for 50,000+ financial reports saving, analysts 20+ hours per week across 10+ client accounts
- Automated error detection and data validation work flows using Python and PowerShell, eliminating 65% of manual data processing tasks and reducing data accuracy errors from 12% to 2% across 500K+ transaction records
- Optimized report mining pipeline using Monarch Pro achieving 90% success rate, reducing processing time from 6 hours to 45 minutes per batch and enabling 50% faster report delivery to enterprise clients
- Led knowledge transfer sessions for 5+ developers and collaborated with distributed US-based teams to deliver customized reporting solutions that improved system reliability by 40%

**Software Developer Intern** — Jan 2023 – Jun 2023
*Broadridge Financial Solutions* — *Telangana, India*
- Developed Java-based AWS Lambda functions to automate billing work flows processing 100K+ monthly transactions, reducing manual billing errors by 80% and decreasing processing time from 2 days to 4 hours
- Architected serverless billing system using S3, DynamoDB, SNS, and SQS that scaled to handle 3x transaction volume during peak periods while maintaining 99.9% uptime
- Created comprehensive technical documentation and system design diagrams reducing onboarding time for new developers by 15% and decreasing support tickets by 25%

## PROJECTS

**Serverless video processing pipeline using PaaS** | *AWS Lambda, S3, ECS Fargate, Python, CNN* — April 2025
- Architected a multi stage event driven architecture with S3 triggers, enabling scalable and asynchronous handling of 100+ video datasets without manual intervention.
- Created a serverless data pipeline on AWS using Lambda, S3, and ECS optimizing executing time for video analysis to 300ms per frame with ResNet-34 CNN.

**Elastic Image Recognition application using IaaS** | *Python, PostgreSQL, Data Modeling* — Feb 2025
- Engineered a multi tier elastic image classification system on AWS using EC2, S3, SQS, and DynamoDB, with a custom auto scaling controller to optimize instance usage and maintain sub-200ms response latency. Managed 1000+ concurrent requests, ensuring high availability and consistent performance with minimal downtime.

**Astral Minds** | *ReactJS, NodeJS, MongoDB* — Feb 2022
- Designed and developed Astral Minds, a website enabling users to share knowledge and insights related to space and celestial objects. Implemented full-stack functionality, including CRUD operations, using React JS for the frontend, Node.js with Express JS for the backend, and MongoDB for the database. Utilized Postman to test and validate API endpoints, ensuring smooth communication between the frontend and backend services.

## LEADERSHIP

**Graduate Teaching Assistant** | *Arizona State University* — Aug 2024 – Present
- Lead instruction as Teaching Assistant for Information Assurance and Security under Prof. Stephen S. Yau, delivering interactive sessions to 80+ students per semester and creating customized learning materials that enhanced student performance on security assessments. Conduct graduate research on cybersecurity frameworks for thesis while providing personalized mentorship in information assurance principles.

## EDUCATION

**Master of Science in Computer Science** — Aug 2024 – May 2026
*Arizona State University* — *Tempe, AZ*

**Bachelor of Technology in Electronics & Communcations Engineering** — Aug 2019 – May 2023
*National Institute of Technology* — *Jamshedpur, India*