

# Ashish Nadadur Chakravarthi

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## SUMMARY

Master's student in Computer Science at Arizona State University with 5 years of software engineering experience and a U.S. patent. Skilled in backend and cloud-native development, blockchain, and AI/ML, with a strong record of designing and deploying scalable, secure, and high-impact applications.

## EDUCATION

<b>Master of Science in Computer Science</b> Arizona State University, Tempe, AZ	Aug 2025 - May 2027 GPA: 4.0/4.0
<b>Bachelor of Technology in Electronics and Communication Engineering</b> National Institute of Technology, Warangal	Aug 2016 - Aug 2020

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, Go, Java, C++, C, SQL

**Frameworks/Libraries:** Node.js, Express.js, PyTorch, TensorFlow, Scikit-learn, CUDA, OpenCV, Jest, Hyperledger Fabric

**Cloud & DevOps:** Azure (Blob Storage, Serverless Functions, Key Vault), Docker, Kubernetes, Git, Bitbucket, CI/CD (Bamboo, Artifactory, Octopus, Rancher), Linux, Shell Scripting

**Security tools:** Coverity, BlackDuck, Twistlock (Prisma Cloud), Burp Suite, Qualys, HashiCorp Vault

**Databases:** MongoDB, PostgreSQL, MySQL, Elasticsearch

## PROFESSIONAL EXPERIENCE

**Advanced R&D Engineer/Scientist, Honeywell, India** Oct 2023 – Aug 2025

Developed scalable, secure, and cloud-enabled software solutions leveraging blockchain technologies and AI.

- Architected a distributed digital record management platform using **Hyperledger Fabric, Node.js and Express.js**, improving data consistency and scalability across multiple production systems and managing **100K+ records**.
- Developed smart contracts in **Go** to automate validation workflows, improving process efficiency by **40%**.
- Enhanced system scalability by redesigning the **backend gateway** architecture, optimizing load balancing across microservices, resulting in **40% lower latency** and improved throughput under high load scenarios.
- Strengthened backend security by remediating **50+ vulnerabilities** across **10+ microservices** using **Coverity, Blackduck, and Twistlock**, integrated into CI/CD pipelines.
- Built cloud pipelines with **Azure Functions** and **Blob Storage**, supporting **1K+ monthly file uploads** with high scalability and fault tolerance.
- Designed and deployed **RESTful APIs** using **Python (Flask)** to integrate machine learning models into production workflows, enabling seamless data retrieval and model inference services.

**R&D Engineer/Scientist, Honeywell, India** Sept 2020 - Oct 2023

Engineered AI-powered automation and data intelligence solutions to improve operational efficiency.

- Designed and trained a document classification model using **BERT (Large Language Model)**, achieving **90% accuracy** and streamlining data cataloging workflows.
- Built an AI-based information retrieval pipeline using **PyTorch** for semi-structured data, achieving **92% text extraction accuracy**.
- Profiled and optimized **PyTorch** inference pipeline to measure **FLOPs** and reduce runtime latency, improving computational efficiency and model scalability.
- Developed real-time analytics dashboards using **Python (Matplotlib, Tkinter)** for system monitoring and anomaly detection.
- Integrated **Elasticsearch-based** search pipelines, cutting query latency and lookup times by **50%**.

## PATENT AND PUBLICATIONS

- **U.S. Patent (US 12,386,486 B2):** Invented an interactive HMI framework to improve decision-making and automation in complex systems.
- Peer-reviewed paper publication in **SAE International Journal of Advances and Current Practices in Mobility** on AI-based Information Retrieval for aviation, driving Industry 4.0 adoption and Smart Factory use cases.