

# ANANYA ASTHANA

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## PROFESSIONAL SUMMARY

Focused and fast-learning Software Engineer with 3.5 years of work experience in the IT industry, on Backend Development, Web Development, DevOps, AI, Cloud - security and automation, seeking high-impact, high-value, innovative opportunities.

## ACADEMIC QUALIFICATION

Northeastern University, Boston, MA  
Khoury College of Computer Sciences  
Master of Science in Computer Science

September 2023 – May 2025  
GPA: 3.83/4.0

SRM Institute of Science and Technology, Chennai, India  
Bachelor of Technology, Computer Science and Engineering

August 2016 – May 2020  
CGPA: 8.51/ 10

## TECHNICAL SKILLS

**Languages:** Python, Java, PowerShell, PHP, C, C++, C#

**Database Management Systems:** SQL, MySQL, MongoDB, PostgreSQL

**Web Technologies:** HTML, JavaScript, TypeScript, React.js, Node.js, CSS, Bootstrap

**Frameworks/ Libraries:** FastAPI, FlaskAPI, Swing, Zend, OpenCV, Pandas, Numpy, PyTorch, Ollama, unittest, WordPress

**Developer Tools:** Git, Docker, Terraform, PowerBI, Prisma, Dynatrace, GitLab, ServiceNow, Jenkins, Kubernetes, Splunk, LaTeX

**Cloud Computing:** AWS, Azure, GCP, Boto3 SDK, AWS CDK, CIS NIST CSA-CCM frameworks

**Certifications:** AWS Certified Security - Specialty, AWS Certified Cloud Practitioner, Microsoft Azure Fundamentals, AWS Cloud Agnostic Audit Certification, Palo Alto Networks System Engineer: Prisma Cloud Associate

## WORK EXPERIENCE

### Amazon Robotics

Software Development Engineer Co-Op

July 2024 – December 2024

North Reading, MA, USA

- Developed the AR Resource Management (ARRM) Historical Insights Toolkit, a reusable framework to automate metric generation from drive unit and fulfillment center data, eliminating rescripting and used by 5+ engineering teams to drive feature updates.
- Reduced architecture setup time by 80% via programatic automation using the **TypeScript**-based **AWS Cloud Development Kit**, provisioning Python **Lambda** for query execution, **Athena** for data extraction, **S3** for storage, **IAM** roles for least privilege, **CloudWatch** for dashboarding, and **EventBridge** for periodic execution. Compiled an extensive development guide for future scalability.
- Performed modular unit testing using Python **unittest** with **mocking** to improve code quality, correctness, edge and test case coverage.

### KPMG India

Software Development Engineer

January 2020 – July 2023

Bengaluru, India

- Led the development of a **Python** Cloud Security Posture Management tool using **Flask** REST APIs, **PowerShell**, **cloud SDKs** (AWS, Azure, GCP), with a **MySQL** database, deployed for 10+ Fortune 500 clients, saving 200+ hours/month in manual cloud audit effort.
- Developed 13 Azure Cloud Audit bots for KPMG's Intelligent Automation Platform, used globally by 8 KPMG member firms.
- Spearheaded cloud pipeline automation using **Terraform**, **Python**, **PowerShell**, and **Bash**, resolving 120+ IAM, IaC, Lambda tickets, reducing issue resolution time by 50% and cloud operation costs by 15%; containerized the solution using **Docker** and Az containers.
- Built a scalable **PHP Zend**-based Third-Party Risk Management solution with **MySQL**, **React.js**, reducing evaluation time from 2+ days to 3 hours and improving detection accuracy by 25% using dynamic risk scoring, with visual insights using **PowerBI** and **D3.js**.
- Deployed automated **CI/CD** pipeline with **Jenkins**, **GitLab**, **K8s** and **Splunk** for monitoring, saving effort of 3+ resources weekly.

## PROJECTS

**SHEDule: Cycle-aware smart scheduling for balanced living** | [Github Project Link](#) | [Demo Video](#)

March 2025

Built with **React.js**, **Node.js**, **Express.js**, and **PostgreSQL**, integrating **Ollama Mistral** and **Google TTS** to schedule work-life-health balanced calendars. Uses a personal AI assistant to recommend alternative tasks based on menstrual cycle phases that affect physiology.

**HireU: AI-Powered Hiring and Grant Eligibility Assistant** | [Devpost Project Link](#) | [Demo Video](#)

February 2025

'Best use of GenAI' award at CivicHack '25. Created a **React.js** Frontend, **Python FastAPI** Backend, **MongoDB** Database and **Ollama LLM** server for context-based matching of small businesses with suitable candidates and 60% more eligible Federal and State grants.

**EduNavigate: Learning Management System** | [Project Deployment Link](#)

May 2024

Robust single-page application for the management of courses, modules, grades, assignments and quizzes, using **React.js**. Engineered a RESTful backend using **Node.js**, **Express.js**, with state management using **Redux** and database management using **MongoDB**.

**Image Manipulation and Enhancement Software using Java** | [Github Project Link](#)

November 2023

Performs image manipulation functions including compress, blur, sharpen, levels adjustment etc., and produces histograms, displayed on an interactive **Java Swing** GUI. Implemented the Command Design Pattern and MVC architecture for code efficiency.

## PAPER PUBLICATIONS

1. [Enhanced Framework for Visual Attention on Human Face using Artificial Intelligence](#). 2. [Automated Energy Saving System using IoT with PIR Sensors](#). 3. Paper Presentation of 'Diabetes Risk Analysis Using Data Mining and Machine Learning'