

YUKTA BATRA

Fairfax, VA | (+1) 571-663-7362 | ybatra@gmu.edu | yuktabatra.31@gmail.com | [LinkedIn](#) | [GitHub](#) | [Portfolio](#)

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, TypeScript, C++, SQL, HTML, CSS

Frameworks & Libraries: Spring Boot, Node.js, React, Angular, Vue, Pandas, NumPy, Matplotlib, Scikit-learn, TensorFlow, Keras, Power BI

ML & AI: PyTorch, Deep Learning, Neural Networks, Natural Language Processing, Computer Vision, Data Pipelines

Cloud & DevOps: AWS (EC2, S3, RDS, Lambda, DynamoDB, ECS), Docker, Kubernetes, Jenkins, GitHub Actions, Azure, Linux, Git

Concepts: REST APIs, Microservices Architecture, Distributed Systems, System Design, Object-Oriented Programming (OOP), Data Structures & Algorithms, Agile, CI/CD, Unit Testing, Serverless

Certifications: AWS Cloud Practitioner, Linux Foundation OpenSSF (LFEL1012) – Secure AI/ML Software Development, Machine Learning, Data Visualization (Tableau), JavaScript & ReactJS Bootcamp

EXPERIENCE

Graduate Teaching Assistant – George Mason University, Fairfax, VA

Aug 2025 – May 2026

- Engineered reusable functions and automated data pipelines in R to migrate 50+ legacy STATA scripts, cutting processing time by 60% and establishing reproducible analytical workflows.
- Streamlined analysis workflows across 5+ datasets in R, generating reproducible visualizations and structured reports consumed by 30+ graduate students per semester.
- Performed code review and debugging on 30+ R scripts per cycle, identifying logic errors and refactoring for modularity; reduced error rates by 40% and improved script performance.

Open Source Contributor – MITRE Secure Coding Case Studies

Mar 2026 – Apr 2026

- Proposed and authored a secure coding case study on CVE-2025-55315 (HTTP Request Smuggling in ASP.NET Core Kestrel) for MITRE's public repository, analyzing the parser vulnerability and mitigation via PR #64037.

Data Analytics & Automation – Rajan Sharma & Associates

Apr 2023 – Mar 2024

- Programmed Python scripts using pandas to automate reconciliation of 10,000+ financial transactions monthly by matching bank statements against accounting records, reducing manual processing by 60%.
- Applied Z-score and IQR statistical methods to detect anomalous expense patterns across 50+ client portfolios, flagging irregular transactions for partner review.
- Constructed SQL queries (SELECT, JOIN, GROUP BY) against Tally and SAP databases to extract and transform financial data for GST, tax, and audit compliance reporting.
- Designed PowerBI dashboards tracking audit KPIs including compliance status, client deliverable deadlines, and audit completion metrics, enabling real-time monitoring for partners.

Web Developer Intern – MakeMeBuilders, India

Jun 2022 – Aug 2022

- Delivered responsive React applications serving client-facing interfaces, reducing page load time by 30% through streamlined component rendering and lazy loading.
- Developed modular UI components, accelerating feature development by 20% across all project iterations.
- Converted 15+ Figma designs into production-ready components, reducing design-to-code handoff time by 35% and accelerating stakeholder approval cycles.

Cloud Computing Intern – AWS Academy Cloud Foundations, India

Jun 2021 – Jul 2021

- Provisioned and configured multi-tier AWS infrastructure (EC2, S3, RDS, IAM) across 5+ hands-on lab projects, deploying scalable cloud application environments from scratch.
- Executed AWS Well-Architected Framework principles across 5 pillars — security, reliability, performance efficiency, cost optimization, and operational excellence — in project-based cloud deployments.
- Configured auto-scaling, application load balancing, and VPC networking for high-availability deployments; earned AWS Cloud Practitioner certification.

PROJECTS

AI Resume Screener | Python, FastAPI, Groq LLaMA 3.3, pypdf, Vercel, Render

- Built a full-stack AI-powered resume screening tool using Groq's LLaMA 3.3 to analyze resume-job description match, extract skill gaps, detect missing ATS keywords, and generate actionable improvements.

Cloud-Native Survey Management Platform | Spring Boot, React, Docker, Kubernetes, AWS (EC2, RDS, S3), Jenkins

- Architected a full-stack survey system supporting 1,000+ concurrent submissions using stateless Spring Boot microservices; orchestrated Docker deployments on Kubernetes with zero-downtime rolling updates.
- Configured Amazon RDS with strategic indexing achieving 30% faster query performance, automated CI/CD pipelines using Jenkins and GitHub Actions, reducing deployment cycles by 40%.

GMU SmartPatriot – AI-Powered University Knowledge Engine | Next.js, Node.js, TypeScript, Groq (llama-3.1), Cheerio, Vercel

- Deployed an AI knowledge engine aggregating 200+ GMU web pages via a RAG pipeline combining web scraping, semantic retrieval, and NLP with multi-turn memory and <2-second response latency.

Human Activity Recognition (HAR) using CNN-LSTM | Python, PyTorch, Pandas, NumPy

- Constructed an end-to-end time-series pipeline for human activity classification across 14 classes; designed hybrid CNN-LSTM model achieving 98% test accuracy and 0.97 macro F1 on ~6,000 windows.

Additional Projects: Network Address Manager (C/AVL Trees), Simulated Annealing, Maze Solver (A* Search) — [Github](#)

EDUCATION

Master of Science in Computer Science

Aug 2024 – May 2026

George Mason University, Fairfax, VA

Relevant Courses: Algorithms, Artificial Intelligence, Mathematics, Information Security

Bachelor of Technology in Computer Science

Aug 2019 – Jun 2023

The NorthCap University, Gurugram, India

Relevant Courses: Object-Oriented Design, Database Systems, Operating Systems