

Bhavyashree Putta

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Summary

Full-stack architect (C#/.NET, React, Azure) who shipped a \$3M+ transit platform for 15K+ users at UIC, slashing security risks by 40%. Engineered a 4-bit fine-tuned CodeLlama for autonomous code repair using Python/PyTorch. Scholarship-backed innovator of production-grade cloud systems.

Education

University of Illinois Chicago, USA

Aug 2023 – May 2025

Master of Science in Computer Science

GPA 3.88

Coursework: Data Structures and Algorithms, Advanced Topics in Software Engineering, Secure Web Application Development, Database Systems, User Interface Design, User Experience Research Methods, Computer Systems Security, Data Mining & Text Mining, Artificial Intelligence.

Technical Skills

Languages: C, Python, C#, Java, Typescript, JavaScript, PHP, Shell Scripting

Frontend & Web: HTML5, CSS3, React, Vue.js, Next.js, TailwindCSS, Bootstrap

Backend & Frameworks: Node.js, .NET Core, ASP.NET, RESTful APIs

Databases: Microsoft SQL Server, MySQL, PostgreSQL, MongoDB

Cloud & Infrastructure: Azure AD, AWS (EC2, S3, Lambda, RDS, API Gateway), Docker, CI/CD

Tools & Platforms: Postman, Git, Jira, Confluence, Jenkins, Figma

Methodologies: Agile & Scrum, Object-Oriented Programming (OOP), Model-View-Controller (MVC) Architecture, Version Control, Secure Software Development Lifecycle (SSDLC)

Experience

University of Illinois

Aug 2023 - May 2025

Full Stack Developer (Graduate Research Assistant) – UIC Student Affairs Technology

Chicago, IL

U-PASS+ – React, C#, TypeScript, ASP.NET, Microsoft SQL Server, Azure AD, ETL, Python

- Spearheaded a **high-traffic** transit platform serving **15K+ students**, and built **Python ETL** pipelines to automate roster ingestion and eligibility checks, thus **cutting enrollment time by 40%** and generated **\$3M+** in university revenue.
- Migrated to **token-based** authentication with **Azure AD** and rolled out SQL changes via staged deployments, ensuring **zero downtime**, **99.9% uptime** for 250K+ monthly REST API requests, and a **40% drop in security risks**.
- **Cut production bugs by 35%** by containerizing services and adding xUnit tests to CI/CD, enabling **50+ concurrent admin updates** and streamlining eligibility workflows via automated checks.

Career Fair Payment Portal – Vue.js, C#, ASP.NET, Javascript, MYSQL

- Orchestrated a payment interface with **Stripe.js**, using async form handling, client-side validation, and retry logic to support **1000+ concurrent users** and **reduce payment failures by 30%**.
- Developed a C# REST API with Xero integration to automate reconciliation and receipts, **cutting admin workload by 80%**.

Climbing Wall Certification System – C#, ASP.NET, TypeScript, Microsoft SQL Server

- Reduced **user wait times by 50%** and **staff workload by 70%** by designing and implementing a digital recreational (belay) certification module with automated expiry reminders, achieving 100% compliance.
- Optimized SQL Server performance by analyzing bottlenecks and rewriting stored procedures, **eliminating redundant API calls by 40%**, and **improving query speeds by 35%**.

GetLect

May 2022 - Nov 2022

Web Developer Intern – (React.js, Figma, PHP, Docker, AWS(EC2, S3), MYSQL)

Banaglore, India

- Designed and implemented a new React UI based on **custom Figma mockups**, improving navigation flow and boosting session time by 15% with lazy-loaded modules that **cut load time by 40%**.
- Migrated legacy PHP apps from cPanel to AWS (EC2 + S3), **decommissioning 30% of on-prem servers** and automating backups to save \$8K/year in recovery costs.
- Refactored monolithic PHP backend into Dockerized microservices with a layered architecture, **reducing code complexity by 20%** and enabling **25% faster APIs** with 3× traffic capacity.

Projects

Fine-Tuning CodeLlama for Bug Detection and Fixes | QLoRA, Python, Hugging Face, PyTorch

- Transformed **23K+ bug-fix pairs** in PyTrace dataset into AST structures, optimizing training by updating only **0.1% of weights (q_proj/v_proj)**, enabling efficient runs on a single 8GB GPU.
- Achieved **44% lower validation loss** and **26% reduced perplexity** while maintaining BLEU/ROUGE scores, enabling production-grade code repair at **1/10th compute cost**.

Receiptaurant | React, TypeScript, Node.js, MySQL, AWS

- Deployed an **AI-powered surcharge detection** API using Node.js and Google AI Studio LLM, with Redis caching and AWS (S3 + RDS) to ensure **<200ms responses** for real-time insights.
- Crafted an **interactive geospatial dashboard** using Google Maps API, visualizing fee patterns and **reducing user discovery time by 40%** through dynamic D3.js-driven UI.

Counterfeit Medicine Authentication System | React.js, Hyperledger Fabric, IoT(Raspberry Pi), Solidity

- Developed a **secure IoT-to-blockchain** pipeline using **RFID** and **sensor data** to detect counterfeit medicine, writing to **Hyperledger Fabric** and flagging fraudulent batches in under 2 seconds.
- **Containerized** a permissioned blockchain system with Docker and isolated peer nodes, and implemented end-to-end encrypted telemetry with **Mutual Certificate-based Authentication**, streaming 50K+ secure events/day at <5ms latency.

Publication & Achievements

- Published research on "*An Effective Counterfeit Medicine Authentication System Using Blockchain and IoT*" in IEEE Xplore, presented at the **4th International Conference on Emerging Technology (INCET 2023)**.
- **Featured by the Cook County Chronicle** for leading the U-PASS+ initiative, expanding transit access to over 15K students across the Chicago region.
- **First Place** - Epic Cosmos Hackathon for developing a data-driven analysis pipeline on Hormone Replacement Therapy and breast cancer using the Cosmos dataset.