

# Bharghava Kumar Purru

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## PROFILE SUMMARY

Innovative Software Engineer leveraging AI to the fullest, rapidly building applications with minimal guidance and maximum efficiency.

## EDUCATION

### Case Western Reserve University

Masters in Computer Science.

U.S

08-2023 – 05-2025

## SKILLS

- **Programming Languages:** .NET Core, C#, Python, Java, Advanced SQL, T-SQL, JavaScript
- **Frameworks & Libraries:** ASP.NET Core, React.js, Angular, Spring, SignalR, Entity Framework Core, Selenium, NumPy, Pandas, Matplotlib, LangChain, RESTful APIs
- **Cloud Platforms:** AWS (EC2, Nitro Enclaves, S3), Microsoft Azure (Active Directory, Blob Storage, OpenAI, Cosmos DB, Functions, Compute, App Services), Vercel (V0)
- **CMS & Frontend Platforms:** HubSpot CMS, WordPress
- **Tools & Platforms:** Git, Docker, Visual Studio, Postman, Streamlit, Power BI, CI/CD Pipelines (GitHub Actions), DevOps
- **Databases:** SQL Server, Cosmos DB, MongoDB, MySQL
- **Web Technologies:** React.js, Angular, Bootstrap, Node.js, AJAX
- **Development Methodologies:** Agile, Project Management
- **Testing & Quality Assurance:** Selenium, Manual Testing, Regression Testing, xUnit
- **Architecture & Design:** Microservices Architecture, Document Management Systems
- **UI/UX & Design:** Figma, Responsive Web Design, Iterative Prototyping, UX Audits
- **Soft Skills:** Problem-solving, Communication, Team Leadership.

## WORK EXPERIENCE

### Web Developer Intern | Waverly Partners (Ward Howell Company)

04/2025 – 04/2025

- Designed and deployed a responsive landing page aligned with corporate branding.
- Iteratively improved UI/UX based on stakeholder feedback and usability reviews.
- Consulted on platform deployment strategies and helped streamline CMS hosting plans.
- Managed both frontend and backend implementation, ensuring a full-stack production-ready deployment using modern best practices.

### Software Engineer Intern – Full Stack | Tharro Labs Inc.

04/2025 – 04/2025

- Contributed to MVP builds and full-stack prototypes using SwiftUI, JavaScript/TypeScript, Supabase, and Vercel.
- Participated in product discussions, helped define technical architecture, and executed lean build strategies.
- Implemented features like real-time data pipelines, authentication, and optimized UI performance.
- Applied best practices in Git workflows, version control, and rapid open-source tooling for early-stage product development.

### Website and CRM Optimization Intern | Summer on the Cuyahoga

11-2024 – 04-2025

- Independently migrated the organization's main website from WordPress to HubSpot CMS, enhancing site usability, SEO, and administrative ease with zero downtime.
- Personally revamped and streamlined DonorDock CRM processes to improve donor tracking, automate follow-ups, and simplify reporting for non-technical users.
- Single-handedly designed and deployed custom landing pages for multiple colleges and events (e.g., Case Western, Oberlin, Smith, and Colgate), significantly boosting visibility and user engagement.
- Executed comprehensive UX/UI updates, content restructuring, and CRM integrations based on my own user behavior research and best practices.
- Delivered data-driven recommendations to leadership based on in-depth analysis of site performance and CRM effectiveness, influencing future digital strategies.

### Research Assistant | Case Western Reserve University

09-2024 – 12-2024

- Built a secure, privacy-preserving data projection platform using React.js, MongoDB, Python (Federated Learning), and C#, containerized with Docker and deployed across multiple service providers using AWS Nitro Enclaves.
- Architected a multi-instance, multi-user system enabling secure computation over sensitive datasets, enforcing data plug-based access control across distributed resources.
- Implemented Federated Learning to train models on decentralized user data while ensuring compliance and data privacy using Nitro Enclaves and Aca-py for verifiable communication.
- Designed a controller service to manage communication and computation flow between users and service providers, supporting selective data sharing for specific training tasks%.

### Teaching Assistant | Case Western Reserve University

06-2024 – 12-2024

- Mentored 60+ graduate students in Computer Networks, covering core topics such as TCP/IP, DNS, DHCP, NAT, CIDR, Subnetting, routing protocols (OSPF, BGP), socket programming, and distributed systems architecture.
- Evaluated and provided in-depth feedback on 120+ assignments involving packet-level analysis, congestion control, client-server models, and network topology design, resulting in a 20% increase in student comprehension and performance.

### Software Engineer, Full Stack .Net Developer | HCL Technologies

08-2022 – 12-2023

- Designed and developed scalable microservices using ASP.NET Core and C#, integrating business logic with Entity

Framework Core for seamless data operations across SQL Server databases.

- Built dynamic and responsive React.js front-end applications, connected via RESTful APIs, ensuring consistent user experience and real-time data interactions.
- Deployed applications on Microsoft Azure using App Services, Azure Functions, and Blob Storage, optimizing performance and ensuring high availability.
- Secured authentication flows using Azure Active Directory (AAD) with OAuth2 and SSO, while containerizing services using Docker for cross-environment compatibility and local development.
- Created automated CI/CD pipelines in Azure DevOps, wrote unit/integration tests using xUnit, and conducted code reviews to maintain code quality and deployment efficiency.

## CERTIFICATIONS

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- Docker (LinkedIn) | C# (Microsoft) | API Student Expert (Postman) | Data Science (Cisco) | Artificial Intelligence (Salesforce)

## PROJECTS

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### Document Management System Inspired by DocVue | React.js, TypeScript, .NET Core, SQL Server 01-2025

- Created an automated document management system where admins upload documents, and AI routes them to the appropriate department (e.g., HR, Finance, Management).
- Developed a seamless approval/rejection workflow, enabling team members to provide feedback and allowing rejected documents to be reassigned for further review.
- Automated document processing, reducing manual work, enhancing productivity, and ensuring smooth document flow across departments.

### Chatbot Agent for Companies | Python, Streamlit, LangChain, ChatGPT API, Huggingface 01-2025

- Developed a PDF-powered chatbot using LangChain and ChatGPT API to answer company-related queries.
- Integrated Huggingface language models and optimized the chatbot for efficient, accurate responses.
- Built a scalable solution to analyze PDFs and interactively provide company information to users.

### Cloud Resume and Chatbot Platform | .NET Core, Azure OpenAI, Cosmos DB, Blob Storage, Azure Functions, Js 11-2024

- Built an interactive resume platform with dynamic content and visitor analytics, leveraging Azure Blob Storage and Cosmos DB.
- Created a chatbot powered by Azure OpenAI for responsive, resume-specific queries.
- Established CI/CD workflows with GitHub Actions and performed robust testing using xUnit.

### University Class Automation System | Selenium, C#, ClosedXML, Windows Task Scheduler 01-2025

- Developed an automated system to log in, process university class schedules in Excel, and identify open classes with available seats using Selenium and ClosedXML.
- Integrated secure credential management and automated email notifications for real-time updates.
- Scheduled recurring execution via Windows Task Scheduler, streamlining the process and saving users significant time.

### Blog Application | Node.js, Express, Angular, MongoDB 11-2024 - In Progress

- Building a functional blog platform with the MEAN stack, featuring a dynamic Angular front end, a Node.js and Express backend with RESTful APIs, and MongoDB for efficient data storage and seamless user interaction.

### E-commerce Platform | C#, ASP.NET Core, MySQL, Web APIs 11-2024

- Built a full-stack e-commerce platform with user registration, login, role-based access control, and secure navigation using ASP.NET Core Identity and Entity Framework Core for database operations.
- Designed dynamic Razor Views with AJAX interactivity, implementing attribute routing, model binding, and comprehensive unit and integration testing to ensure functionality and reliability.

### Real-Time Chat Application | C#, ASP.NET Core, SignalR, React.js, WebSockets 02-2023

- Developed a real-time messaging platform operating SignalR and WebSockets, managing thousands of concurrent users with minimal latency.
- Achieved load balancing and honed API performance for seamless user experience.

### Contact Management Application | Angular, .NET MVC, MySQL 09-2024

- Created a web application enabling users to add and delete contacts via a seamless interface, utilizing Angular for front end and ASP.NET Core Web APIs for back end.
- Built a responsive UI compatible with various devices and performed RESTful services to manage contact data efficiently.