

Bharghava Kumar Purru

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PROFILE SUMMARY

Software Engineer with 3+ years of experience building scalable applications, cloud solutions, and AI-powered platforms across professional, academic, and research environments.

EDUCATION

Case Western Reserve University

Master's in Computer Science.

United States of America

08-2023 – 05-2025

SKILLS

- **Programming Languages:** C#, Python, Java, JavaScript, TypeScript, Go, PowerShell
- **Frameworks, Libraries & Web Technologies:** ASP.NET Core, Entity Framework Core, SignalR, Spring, gRPC, FastAPI, React.js, Angular, Vue, Next.js, React Native, Node.js, Express.js, Bootstrap, Tailwind CSS, ShadCN/UI, Zod, tRPC, AJAX, Selenium, Playwright, xUnit, Pandas, NumPy, Matplotlib, Scikit-learn, LangChain, OpenAI API
- **Cloud & DevOps:** Microsoft Azure (App Services, Blob Storage, Cosmos DB, Azure Functions, Active Directory, OpenAI, Logic Apps), AWS (EC2, S3, IAM, Nitro Enclaves), Vercel (V0), Cloudflare Pages, Supabase, Docker, Kubernetes, GitHub Actions, Azure DevOps, Git, PowerShell, Bash, Postman, CI/CD Pipelines, Infrastructure as Code (IaC), Container Orchestration, Serverless Architecture
- **Microsoft Stack:** Azure Active Directory, OAuth2, Azure Functions
- **Databases & CMS Platforms:** SQL Server, MySQL, PostgreSQL, MongoDB, NoSQL Cosmos DB, Firebase/Firestore, HubSpot CMS, WordPress
- **Tools & Methodologies:** Visual Studio, Postman, Power BI, Figma, Streamlit, Windows Task Scheduler, Responsive Design, UI/UX Prototyping, Agile Development, Microservices Architecture, Document Management Systems.

WORK EXPERIENCE

Full Stack Developer | Hilde B Foundation

05/2025 – Present

- Developed the main company website with responsive design and SEO optimization.
- Currently building a cross-platform mobile application using React Native for Android and iOS platforms.
- Integrated Supabase as the backend (auth, database, and storage) to streamline development and ensure scalability.
- Designed and implemented an HR portal for employee onboarding, leave management, and internal documentation.
- Focused on clean UI/UX, secure authentication, and efficient CRUD operations across the stack.

Web Developer Intern | Waverly Partners (Ward Howell Company)

04/2025 – 05/2025

- 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 – 05/2025

- Contributed to the development of a cross-platform dating app by integrating GPT-based models for profile matching, sentiment analysis, and smart conversation suggestions.
- Built full-stack features using React Native, TypeScript, and Supabase, including real-time messaging, authentication, and interest-based recommendation pipelines.
- Built real-time messaging, authentication, and recommendation systems, optimizing frontend deployment on Vercel (V0).
- Participated in architecture and sprint planning, applied GitHub-based version control best practices, and implemented open-source tools for rapid prototyping and A/B testing.

Website and CRM Optimization Intern | Summer on the Cuyahoga

12-2024 – 05-2025

- Independently migrated the organization's main website from WordPress to HubSpot CMS, enhancing site usability, SEO, and administrative ease with zero downtime.
- Automated CRM workflows using DonorDock, significantly improving operational efficiency.
- 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

07-2024 – 01-2025

- Built a secure, privacy-preserving data projection platform using React.js, MongoDB, Python (Federated Learning), and Java, 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	07-2024 – 01-2025
<ul style="list-style-type: none"> 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	07-2022 – 12-2023
<ul style="list-style-type: none"> 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

<ul style="list-style-type: none"> Docker (LinkedIn) C# (Microsoft) API Student Expert (Postman) Data Science (Cisco) Artificial Intelligence (Salesforce)

PROJECTS

<u>Document Management System Inspired by DocVue</u> React.js, TypeScript, .NET Core, SQL Server	01-2025
<ul style="list-style-type: none"> 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. 	
<u>Chatbot Agent for Companies</u> Python, Streamlit, LangChain, ChatGPT API, Huggingface	01-2025
<ul style="list-style-type: none"> 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. 	
<u>Cloud Resume and Chatbot Platform</u> .NET Core, Azure OpenAI, Cosmos DB, Blob Storage, Azure Functions, Js	11-2024
<ul style="list-style-type: none"> 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. 	
<u>University Class Automation System</u> Selenium, C#, ClosedXML, Windows Task Scheduler	01-2025
<ul style="list-style-type: none"> 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. 	
<u>Blog Application</u> Node.js, Express, Angular, MongoDB	11-2024 - In Progress
<ul style="list-style-type: none"> 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. 	
<u>E-commerce Platform</u> C#, ASP.NET Core, MySQL, Web APIs	11-2024
<ul style="list-style-type: none"> 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. 	
<u>Real-Time Chat Application</u> C#, ASP.NET Core, SignalR, React.js, WebSockets	02-2023
<ul style="list-style-type: none"> 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. 	
<u>Contact Management Application</u> Angular, .NET MVC, MySQL	09-2024
<ul style="list-style-type: none"> 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. 	