# KARAN VISHWAKARMA

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## SUMMARY

Result-oriented software engineer with 5+ years of expertise in Java, Python, C#, SQL, full-stack, and mobile app development. Proficient in frontend technologies like JavaScript and React, with experience in back-end frameworks, delivering scalable and reliable software solutions.

## EDUCATION

Master of Science in Computer Science, University of Illinois, Chicago, GPA: 4.0/4.0
Bachelor of Engineering and Technology from IET, DAVV Indore, India, GPA: 3.7/4.0

## TECHNICAL SKILL SET

| | |
|---|---|
| Programming languages | Java, JavaScript, Python, Ruby, PHP, C# |
| Database | Oracle, MySQL, SQLite, SQL, MongoDB, SharedPreferences, Neo4j, Postgres |
| Web Development | HTML5, CSS, Angular, JavaScript, ReactJS, GraphQL, .NET, PHP, Bootstrap, Jest, Cypress |
| Development Ecosystem | Visual Studio, TensorFlow, Postman, Jenkins, Amazon Web Services, Azure, Docker, Kafka |
| Operating system | Windows, Linux, MAC OS X, Debian |

## PROFESSIONAL EXPERIENCE

### University of Alabama: Programmer Analyst II                     2024 - 2025
**Technologies:** Java, JavaScript, PHP, Cypress, CI/CD pipeline, ReactJS, AngularJS, HTML, Ruby, Azure, MySQL
**Description**: UA Libraries' main website rewriting project with upgraded technologies and accessibility guidelines.
• Developed the frontend with of the web applications using JavaScipt, React, AngularJS and Webpack for dynamic modules loading.
• Integrated self-hosted CI/CD pipeline for GitHub repositories, boosting deployment success and reducing deployment time.
• Built and maintained Cypress and Jest tests, raising coverage of the code and uncovering pipeline issues on the DSpace server.

### Michaels Store, Inc: Software Development Engineer 2                     2023 - 2024
**Technologies:**  Java, Python, MongoDB, D3.js, S3, Redis, Kafka, JavaScript, LangChain, Azure Cloud, Spring Boot, LLM, JUnit, Generative AI
**Description**: A software for the search team to visualize the knowledge graph for the 7,000,000 products for Michaels Inc.
• Engineered LLM data pipeline using LangChain, increasing search relevancy by 25% and accelerating data generation by 30%.
• Deployed the application on a virtual machine with Gunicorn for scalability and Nginx as a reverse proxy for the application.
• Developed and designed the structure of the Knowledge graph using Neo4J in an agile methodology for product category segregation.

### CME Group: Software Developer Intern                     2022 - 2022
**Technologies:** Java, ReactJS, PHP, ASP.NET, Entity Framework Core, PingFederate, HTML5, CSS, SAML 2.0, NUnit, OAuth
**Description:** A web application that provides a platform for calculating risk management parameters for Future and Options trading.
• Developed a dynamic UI with ASP.NET, ReactJS, and JavaScript, improving page load speeds by 30% and enhancing user engagement.
• Integrated SAML 2.0 authentication, securing access to 100% of sensitive application controllers and protecting user access.
• Utilized Entity Framework Core for storing data and utilized migrations for ORM of class entities to SQL Server tables.

### Xohani Solutions Pvt. Ltd: Software Developer 2                     2018 - 2020
**Technologies**: Java, Android, NodeJS, HTML, CSS, Excel, network protocol, Docker, AWS, Spring Boot, MQTT, IoT sensors
**Description**: A software that allows users to keep track of the vehicles through parameters like speed, fuel lid status, signals, etc.
• Architected  large-scale microservices system, leveraging CI/CD pipelines and Docker to improve deployment efficiency by 40%.
• Integrated MQTT protocol and Google Volley, enabling real-time data retrieval from cloud servers and reducing network latency by 35%.
• Utilized SharedPreferences for maintaining the user login session and gateways for supporting multiple network protocols.

## WORK PROJECTS

### Text Generation using LSTM Neural Network: Deep Learning                     2023 – 2024
**Technologies:** Python, TensorFlow, Jupyter Notebook, LSTM, NLP, One-Hot Encoding, Temperature Sampling, Neural Networks
**Description**: Build a Character level recurrent network to generate custom text using an LSTM model trained on a large corpus of data
• Proprocessed 1M characters and trained using RMSprop and monitored cross-entropy loss across multiple epochs for convergence.
• Designed and trained an LSTM-based sequential neural network to predict the next character given a sequence of characters.

### Notes up: Android Application                     2018 - 2019
**Technologies:** Java, MySQL, PHP, REST, Android Studios, XML, SQL, SharedPreferences, Spring, Google Volley
**Description**: An Android application (with 100,000 downloads worldwide) that allows users to take notes and customize data.
• Designed and implemented a user interface with speech-to-text functionality enabling users to take notes through voice input.
• Persisted user data in SQLite database and leveraged SharedPreferences for faster results & efficient data loading.

## CERTIFICATIONS AND AWARDS

• Microsoft Student Partner                     **2018 – 2020**
• Algorithms and Data structures from Stanford University Coursera                     **2017 - 2017**