Tanvi Agarwal

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Education

Indian Institute of Information Technology, Sri City — Chittoor, India
BTech in Electronics & Communication Engineering: CGPA: 8.87/10 — *July 2017 - June 2021*
Related Coursework: *Data Structures, Algorithms, Applied Software Engineering, Operating Systems, Pattern Recognition*

Work Experience

Microsoft

Software Engineer II | .NET, C#, Redis, Scala — *September 2023 - Present*

- Collaborated on the development of the advanced Restricted Access Control policy to address oversharing scenarios in *OneDrive & SharePoint* sites, supporting **3.5M users** and generating **$4M in revenue**.
- Created data access governance reports for tenant administrators to provide insights into access denials caused by the Restricted Access Control policy.

Software Engineer | .NET, C#, Kusto, Azure services — *July 2021 - August 2023*

- Developed authentication modules in the *Reply At Mentions* Service and onboarded the service to the MSAL library, ensuring resilience and security.
- Designed and implemented a solution for sequentially relaying task edits from *Planner* to *Excel*, provisioning a shared service bus and ensuring EUDB compliance. Developed core business logic, error handling, and retry mechanisms for scalability and reliability. Implemented hourly synthetic monitoring for API health tracking.

Amazon

Software Development Engineer Intern | Spring Boot, Java, AWS - DynamoDB, Kinesis — *January 2021 - June 2021*

- In the *Fast Data Technologies* team, worked on a safe and dynamic rollout plan based on various data graph types for the durable to in-memory queue migration flagship project that reduced **IMR by 10% and latency by 40%**.
- Designed and implemented a monitoring system for pipeline validation, reducing OCE effort by automating health metrics and providing timely alerts on pipeline exceptions.

Projects

- **Condition Monitoring of Hydraulic Systems**: Quantified machine health using sensor data streams by computing series-oriented statistics and feature selection. Applied classification techniques including LDA, neural networks, and SVM. Achieved an accuracy of **96.5%**, surpassing results in several research papers.
- **Fault Diagnosis in Machinery**: Classified fault types in rolling element bearings using operational data with a novel Continuous Wavelet Transform and CNN technique. Achieved **98.54%** accuracy, outperforming conventional ML models like SVM by 4%.

Leadership & Achivements

- **Microsoft Fix-Hack-Learn (FHL) 2022**: Ranked among the top two teams out of 20 for the project *"Training ML Models with Data Boundary Compliance."*
- **GirlScript Summer of Code Extended 2020**: Contributed to the open source project *Dhenu Seva*.
- **Adobe Codiva Hackathon 2020**: Ranked among the top 100 coders.
- **Women Techmakers Engineering Fellow 2019 (Program supported by Google)**: Selected as one of 100 women nationwide for a month-long bootcamp and mentorship from Google leaders. Awarded a scholarship of $1,250.
- **Mentorship**: As a member of the *IIIT, Sricity IOTA* club faciliated workshops on Applied Software Engineering. Mentored a summer intern at *Microsoft* for their project on *Intelligent Replies with At Mentions in Office* apps.
- **Teaching Assistant**: Facilitated the *Signals & Systems* course, providing guidance on MATLAB programming assignments.

Technical Skills

Languages: C++, C#, Java, JavaScript, Python, HTML, CSS, SQL
Frameworks and Libraries: .NET, Spring, React, Node.js, Django, Antd
Developer Tools: Git, VS Code, Visual Studio, PyCharm, IntelliJ