**NISHANT MANCHANDA**

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**Experienced AI and Technology Leader with 8+ years of Experience in Developing Scalable and Secure Software Solutions and Growing Teams to deliver High Quality Results.**

**RELEVANT SKILLS**

* Programming Languages: C#, Rust, Embedded C, Bash, Python, PowerShell
* Experience in AI Development: Semantic Kernel, LangChain, Azure ML Studio, AutoGen, M365 Declarative Copilot with API Plugins, Prompt Engineering, Azure AI Search
* Experience in Databases: SQL, Cosmos DB, SQLite, Table Storage
* Distributed System Development: Kubernetes, Docker
* Experience in Data Development: Azure Synapse, Data Factory
* Azure: IaaC Infrastructure Buildout, Distributed Systems
* Cloud Security: Virtual Network Architecture, Service Architecture using APIM

**EXPERIENCE**

**Microsoft Corp, Redmond**, WA **06/2024-Present**

**Engineering Lead – Level 64**

**Leading a Team of 7 Software Engineers delivering Cloud and AI Services for Devices Supply Chain in Both Commercial and Federal Clouds**

* **Drove the Architecture and Design of Agentic AI Systems within Devices Supply Chain Team**
	+ Guided by Team to build Agents to query Enterprise Confidential Data using a combination of Semantic Kernel
	+ Implemented Secure and Centralized Authorization using SSO and OAUTH2 using Standard ASP.NET Core Middleware Libraries.
	+ Improved Adoption and accuracy of NL2SQL Query from Low 50% to >90% using Prompt Engineering and Azure AI Semantic Re-ranker Search
	+ Create optimized caching layer that could cache similar queries and return responses to Declarative agent, reducing cost of querying via LLM.
	+ Created a unified Authorization Layer that can be utilized as part of Declarative copilot
	+ Augmented my team from managing sustaining services to being at the forefront of AI Development within a span of 6 months.
* **Lead the team for Completion of SFI (Microsoft Secure Future Initiative) Wave 1 and 2 Items on Time**
	+ Drove **On Time Execution and Delivery** of more than 500+ KPI’s for SFI, leading to 95% (5% Known Blocked Items) completion.
	+ **Influenced Cross Functional Engineering Teams** to adopt standardized authentication libraries allowing a standard way of using Azure ARC Based Managed Identity for On-Prem to Cloud Communication
* **Transformed Supply Chain Services Architecture to reduce Infrastructure cost by $4.8 Million/year by driving Zero Trust Architecture**
	+ Drove the Initial Architecture of using Microsoft Intune for Conditional Access across PC’s used for manufacturing devices, reducing the need to maintain on-prem infrastructure
	+ Worked with cross-functional teams across Microsoft to switch from expensive PKI Cert Based Authentication to On-Prem Managed Identity Based Authentication.
	+ **Influenced Cross-Organization leaders as well as CVP of Microsoft Devices Operations** to understand the role of the project in both improving security and reducing infrastructure cost

 **Microsoft Corp, Redmond**, WA **04/2022-06/2024**

**Senior Software Engineer – Level 63**

**Leading the Solution Architecture for Manufacturing Cloud Native Technologies, Building a secure and scalable digital supply chain for manufacturing Microsoft Devices.**

* **Conceptualized and delivered a scalable MLOPS Infrastructure** that allowed an internal Data Science Engineering team to build, deploy and manage machine learning models that helped in Detection of Commercial Fraud in Microsoft Devices Business
	+ Built Real-Time Inferencing Endpoints using Azure Machine Learning Studio that helped in inferencing fraud within a few seconds and stopping fraudulent transactions
	+ Built Automated Pipelines for Model Training on Labelled Data sourced from Fraud investigators that expedited the deployment of trained models daily by 75%.
	+ Core Technologies Used: Python, YAML Development, Azure Machine Learning Studio
	+ Impact: **The project saved $250K in the first 2 months** of operations for Microsoft Devices Business
* **Architected and designed an all-up manufacturing cloud solution for Federal Cloud** for key Microsoft investment in Devices business.
	+ Created Architectural Decision Tree, Built Proof of Concepts to create secure cloud services that adhere to the principles of “Defense in Depth”. This included securing the Internet. facing Endpoints by creating a Virtual Network Infrastructure.
	+ Lead a team of 8 Engineers to recommend best practices in securing back-end database and Services.
	+ **Core Technologies Used**: Azure Identity Management, Azure Networking Resources, Bicep Templates
	+ **Impact**: Successful Implementation of Manufacturing Services in Cloud Supply chain and **saving of $1M YoY** when compared to On-Prem Infrastructure.
* **Cloud Native Configuration Management Service** Built a cloud native service from Ground up that allowed management and configuration of manufacturing limits in compliance with Manufacturing Change Review process.
	+ **Core Technologies Used**: Azure App Service, Blazor Front End, Microservice architecture for Backend (Azure Durable Functions), Database (Azure Cosmos DB)
	+ **Impact**: 90% Reduction in Manufacturing Limits Deployment Time from 3 Days to 4 Hours. This helped the organization **save more than $250K YoY**.
* Lead the **Migration of 4 Production services from an insecure Azure Tenant to a Identity Isolated Azure Tenant** by utilizing Infrastructure as Code.
	+ **Core Technologies Used**: PowerShell, Azure Bicep Templates
	+ **Impact**: Improved the Security Posture of Manufacturing Cloud Services
* **Software Based Load Balancer Service**: Creating a software-based Disaster Recovery/Load Balancer service that eliminated the need for expensive F5 Load Balancers in Microsoft Factories using simple Round-Robin configurable algorithm.

 **Microsoft Corp, Redmond**, WA **08/2021-04/2022**

**Software Development Engineer – Level 62**

**Worked in Azure IoT Edge Team building highly optimized rust-based telemetry applications that were 50% faster than and 33% smaller in footprint**

* **Designed and Implemented a MQTT Based Metrics Collector** which was dynamically configurable and allowed exporting metrics to Azure IoT Hub’s Log Analytics workspace from IoT Edge Devices
* **Designed and Implemented a First Class Validation Toolki**t ([iotedge/platform-validation at main · Azure/iotedge · GitHub](https://github.com/Azure/iotedge/tree/main/platform-validation)) that is used by developers across the world to certify eligibility in running IoT Edge on custom OS/ Hardware. The tool assisted Field Engineers and Cloud Solution Architects in troubleshooting common IoT Edge compatibility issues.
* **Built Automated Integration Test Pipelines** that lead to reduction in new Bugs and Regression by 30%.
* **Technologies Used** – RUST, Bash, GitHub Code spaces, GitHub Actions, YAML Pipelines

**Microsoft Corp, Redmond**, WA **02/2019-08/2021**

**Software Development Engineer 2 – Level 61**

**Lead the software development of Manufacturing Test Hardware used for shipping high quality Microsoft Products – HoloLens, Laptops and Xbox**

* Developed Common .NET Core Libraries for Secure Bearer Token based communication with Cloud Services for pushing Manufacturing Data to cloud. The library helped our team achieve the vision of Test-Anywhere, expanding our scope from 1-factory to multiple factories.
* Software Development using C# for Automated Robot Based Testing. C# Library provided HTTP Based Secure Communication between Factory Robot and Tester along with TCP/IP Socket Based Communication to control Tester GPIO’s. Automated Robot Testing. Library was shared across multiple programs reliably producing more than 10 million Microsoft Devices.
* Developed Re-usable Libraries for Hardware control in factories including Sensors, RF Equipment, Audio Testing Equipment allowing faster scalability to new device manufacturing and better code maintainability.
* Implemented 90% Unit Test Coverage of Code and Developed Integration Test Pipelines using Azure DevOps for Automated Testing and Release of Production Code.
* Technologies Used – C#.