AJ Hennessy

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Work Experience

Software Design Engineer | Microsoft - Contractor   Feb 2024 – Current

- Collaborated on the backend development of an AI product using GraphRAG, enabling the discovery of relationships between entities within given datasets, improving data insights and analysis capabilities
- Created data pipelines using Azure Data Factory, ensuring seamless data flow between Azure Blob storage (parquets) and Azure Cosmos
- Tuned parameters of the GraphRAG indexing engine, reducing indexing time by approximately 66% (from 6 hours to 2 hours), significantly accelerating the data pipeline
- Developed and optimized steps of the data pipeline in Azure Databricks utilizing Python, resulting in a 15% improvement in data processing efficiency
- Implemented secure connections and integrations using Azure Managed Identities, enhancing security and access management
- Created quality checks for data at each step of the pipeline, improving data integrity and accuracy
- Set up a logging system to Azure Application Insights and an Azure Monitor to oversee the data pipeline, leading to a 35% increase in error detection, resolution speed, and operational efficiency

Software Developer | Burns & McDonnell   Jan. 2022 – Feb. 2024

- Boosted workflow efficiency by developing web applications, achieving up to a 65% reduction in process times for key operations
- Designed and deployed full-stack solutions utilizing Angular 14 and a Python/NodeJS-based backend, enhanced by Docker for consistent, environment-agnostic deployments
- Managed databases and storage solutions using Azure Cosmos (transitioned from SQL Server) and Azure Blob storage, ensuring high availability and scalability
- Collaborated on the orchestration of development, testing, and production environments across Azure DevOps and Azure Services, facilitating seamless change management and zero-downtime deployments to production
- Implemented and refined the CI/CD pipeline in Azure DevOps, accelerating deployment processes by 20% and significantly reducing manual intervention
- Developed an automated testing framework as part of the CI/CD pipeline, increasing code coverage by 82% and substantially improving code quality

Education

Georgia Institute of Technology   Aug. 2021 - Dec. 2023

- M.S. in Computer Science, Specialization in Computing Systems
- GPA: 3.8
- Relevant Coursework: Graduate Algorithms, Knowledge Based AI, Game AI, Network Security, Software Arch. & Design, Software Analysis & Test

Wichita State University   Aug. 2017 - May 2021

- B.S. in Computer Science, Cum Laude
- Minor: Mathematics

Skills

- Proficient: Angular, Python, SQL, Azure Services, Azure DevOps, Git, NodeJS
- Familiar: C++, C#, Java, NoSQL, React, Linux

References Available Upon Request