William Dahl

Software Developer

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Summary

Full Stack Software Developer with 5+ years experience spanning work in Front-end, Back-end, Databases, DevOps, Test Automation, and Data Analytics. I am experienced across all aspects of the Software Development Life cycle, from initial planning and requirements gathering to release and support. My research interests are in formalizing data mining and machine learning challenges as graph problems and their applications to problems in the areas of Software Engineering and Data Analytics.

Skills

Angular, HTML, CSS, TypeScript, JavaScript, React, Java, Spring, JPA, Hibernate, Quarkus, GraphQL, PostgreSQL, Neo4j, Docker, Kubernetes, Azure Devops, CI/CD pipelines, Selenium, JUnit, Jest, SQL, Oracle, Python, Tableau, Git, GitHub, AWS, C++, Agile Methodologies, Software Engineering, REST, PL/SQL, Vue.js, TensorFlow, R

Experience

Arizona State University / Senior Application Developer
October 2023 - PRESENT, Tempe AZ

- Designed and implemented web applications using Vue.js for frontend and Java for backend services.
- Led a team of 4 developers, overseeing project management.
- Maintained and upgraded legacy JavaEE applications.
- Developed RESTful APIs to facilitate communication between frontend and backend systems.
- Migrated legacy systems to microservices.
- Designed and Managed application Databases in both SQL Server and Postgres.

General Motors / Software Developer
June 2021 - October 2023, Chandler AZ

- Developed and maintained front-end components using Angular.
- Implemented RESTful APIs and microservices with Spring Boot and Quarkus.
- Managed and maintained databases using PostgreSQL, incorporating Liquibase for version control.
- Utilized Docker and Kubernetes to containerize and orchestrate applications.
- Implemented end-to-end testing using Selenium WebDriver.
- Automated build and deployment processes using Azure DevOps CI/CD pipelines.

Jahnel Group / Junior Developer
January 2021 - May 2021, Schenectady NY

- Assisted in the development of a React-based web application.
- Participated in the creation of a GraphQL API.
- Assisted in database tasks, including data modeling and querying
- Utilized Neo4j as a graph database for data modeling and complex relationship management.
- Assisted in the deployment of applications to a cloud environment in AWS

NYS Office of the Comptroller / Data Science Intern
August 2019 - January 2021, Albany NY

- Data warehousing
- Extracted, manipulated, and validated data using SQL, Oracle, Excel, Python, and R.
- Built data ingestion pipelines in python
- Assisted senior staff in ETL processes.
- Used Tableau and Oracle Business Intelligence to visualize data.
- Supported efforts in identifying cross-agency fraud, waste and abuse opportunities.

University at Albany, SUNY / Research Assistant
August 2020 - December 2020, Albany NY

- Implemented a recommendation system that simulates student activities based on researched student models.

- Created a REST API for other applications to communicate with and use the recommendation system.
- Researched recommendation algorithms to recommend learning materials/topics to students based on the students past performance in tests and exercises.

KeyBank / Data engineering Intern

May 2019 - August 2019, Albany NY

- Collaborated with the RPA development team to identify and document automation opportunities.
- Assisted in the design and development of RPA workflows using UiPath, adhering to best practices.
- Implemented data extraction and transformation processes to enhance automation efficiency.
- Conducted testing and debugging of RPA bots, ensuring accuracy and reliability.
- Participated in the deployment and maintenance of RPA solutions in a production environment.
- Collaborated with business analysts to gather requirements and ensure RPA solutions met business needs.
- Documented RPA processes, including workflows, exception handling, and technical documentation.
- Assisted in the development of custom scripts and automation utilities to support RPA initiatives.

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Education

University at Albany, SUNY / Master's Degree, Computer Science

August 2019 - May 2021, Albany NY

- GPA: 3.85

University at Albany, SUNY / Bachelor's Degree, Computer Science and Applied Mathematics

August 2016 - May 2019, Albany NY

- GPA: 3.74
- Focus in Data Analytics

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Projects

University at Albany, SUNY / Salamander

January 2021 - May 2021, Albany NY

- Developed Salamander, a bytecode-compiled programming language with advanced features such as static typing, garbage collection, multi-threading, networking, and support for multiple programming paradigms, as well as a robust standard library.
- This project involved designing syntax and semantics, implementing compiler optimizations like tail-call recursion, and building a virtual machine.
- https://github.com/wdahl/Salamander

University at Albany, SUNY / Multi-View Knowledge Model

August 2020 - December 2020, Albany NY

- Conducted research in data mining under Professor Shaghayegh Sahebi on the application of Multi-View Knowledge Models to recommendation systems, focusing on recommending educational materials to students.
- I implemented the model in Java, integrating it as a microservice for a web application developed in collaboration with a team at the University of Pittsburgh, and achieved significant performance improvements.
- https://github.com/wdahl/MVKM-Java
- https://educationaldatamining.org/files/conferences/EDM2020/papers/paper_142.pdf

University at Albany, SUNY / TDA Crime Rate Prediction

January 2020 - May 2020, Albany NY

- Used Topological Data Analysis to analyze Boston Crime Data and Predict Crime rates in each district by month
- https://github.com/wdahl/TDACrimeRatePred

University at Albany, SUNY / Distributed Job Submitter

August 2019 - December 2019, Albany NY

- A Distributed System to submit jobs for clients to perform implemented in Django
- https://github.com/wdahl/DistributedJobSubmitter

University at Albany, SUNY / Emoji Recommendation

January 2019 - May 2019, Albany NY

- Recommends an emoji to go with a given text message.
- Uses linear SVM to perform multi classification on text.
- Uses n-grams to analyze the sentiment of the text.
- The sentiment classes included happy, sad, angry, scared, and guilt.
- The classes were then mapped to a respective emoji that would then be recommended to the user for them to use along with the text message they want to send
- https://github.com/wdahl/EmojiReconmendation

University at Albany, SUNY / Maze Solving AI

August 2018 - December 2018, Albany NY

- Trains an AI agent to solve any given maze from any given starting state through the use of Markov decision processes and dynamic programming.
- Uses the value iterative method on the bellman equations to generate an optimal policy for the agent to follow.
- https://github.com/wdahl/MazeSolvingAI

University at Albany, SUNY / Traffic pattern prediction

January 2018 - May 2018, Albany NY

- Uses tweets collected through the twitter rest API.
- Classifies the tweets by relevant and non relevant tweets (ones having to do with traffic in the Albany, NY area) using linear SVM.
- Then extract features from the relevant tweets such as the time the tweet was posted and the location being referred to by the tweet.
- Uses these features to perform k-means clustering on the tweets by both time and road.
- Users can then specify a time they would like to leave for their commute and then get a list of roads in the area sorted from low traffic to high traffic.
- The user could also specify the road and get a listing of times from low traffic to high traffic density for the road.
- https://github.com/wdahl/Data-Mining-Project

LinkedIn   `   GitHub