Joseph Frazier

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EDUCATION

University of Wisconsin - Madison   Madison, WI
Bachelor of Science in Computer Science and Mathematics   *Aug. 2020 – Dec 2024*
Relevant Coursework: Algorithms, Artificial Intelligence, Big Data Systems, Computer Systems, Database Management Systems, Distributed Systems, Data Structures, Object Oriented Programming, Machine Organization, User Interfaces; Linear Algebra, Multivariable Calculus, Statistics, Probability, Combinatorics, Discrete Mathematics, Real Analysis

EXPERIENCE

Software Engineer Intern   May 2024 – Present
JP Tokyo and Co.   *Tokyo, Japan*
- Developed scalable RESTful APIs leveraging the MERN stack (MongoDB, Express.js, React.js, Node.js) within a Microservices architecture for a SaaS enterprise time-tracking solution, improving employee productivity and workforce management.
- Enhanced API performance by implementing multi-threading capabilities within the microservice architecture using Node.js Worker Threads, significantly improving concurrency and throughput.
- Implemented Redis within the logout API to efficiently track and manage invalid tokens, enhancing security and ensuring that unauthorized tokens are effectively invalidated across the system.
- Leveraged AWS SDK to architect and implement secure, scalable image upload and storage solutions on S3, ensuring data integrity and compliance.
- Deployed on AWS EC2, leveraging industry best practices for cloud deployment, ensuring high availability and fault tolerance.

Software Developer Intern   June 2023 – Aug 2023
BlueMatrix   *Durham, NC*
- Contributed to the design of the 'stylesheets' (which are custom code files used to pull and format content), specifically the Email Report Content, which the vendor/client would use to send their own reports to their respective clients
- Handled XML data content and formatted the content held by these XMLs into the Email Report Content using frontend technologies
- Received client requests through the L1 team which handle the client-facing ticket, and troubleshoot the requested issue
- Engaged in active communication with a group of 4 coworkers for clarifications, updates, and support

PROJECTS

PantryChef | *React, Java, MySQL, Python, Git*   June 2023 – Aug 2023
- Designed and developed a full-stack application enabling users to search recipes by ingredients, manage favorites, and contribute original recipes.
- Integrated and managed a comprehensive MySQL database containing over 1.35 million unique recipes
- Optimized the database by normalizing the relational schema, which reduced data redundancy, simplified tuple updates, enhanced scalability, and improved query performance
- Utilized Python to parse and transform large Kaggle datasets, enhancing the database with additional recipes.
- Developed a backend in Java, handling SQL queries between MySQL and the React frontend via HttpRequest.

Sparrow | *C++, Python*   Feburary 2024- May 2024
- Sparrow was developed as a high-performance alternative for processing large datasets, mimicking the functionality of pandas while offering significantly improved speed
- Implemented column-based operations, enabling intuitive data manipulation such as adding columns (t["x"] + t["y"]) and applying functions across columns (t["c"].apply(f)).
- Implemented filtering capabilities, allowing users to easily filter tables based on conditions (e.g., `t[t["c"] > 3]`) and handle missing integer values without defaulting to NaN.
- Enhanced performance by optimizing common data processing tasks, significantly reducing the time required to analyze large datasets.
- Ensured code reliability and functionality through comprehensive unit testing using Pytest, enabling test execution with 'pytest -v'.

TECHNICAL SKILLS

Languages: Python, JavaScript, Java, C/C++, SQL, HTML/CSS
Frameworks/Libraries: React, Express, gRPC, React Native, JUnit, Pandas, NumPy, Matplotlib, PyArrow
Databases: MongoDB, MySQL, Cassandra
Developer Tools: Docker, S3, EC2, Kafka, GCP, Spark, HDFS, BigQuery, Git, MS Office
Human languages: Native Japanese speaker; proficient in reading, writing, and conversational Japanese
Interests: Machine Learning, DevOps, Full Stack