Jared King

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Education

University of Waterloo   Expected 2027
Candidate for Computer Engineering, Honours, Co-operative Program. Entering 3A term January 2025   *Waterloo, Ontario*
- **Relevant Coursework:** DSA (C++), Digital Computers (Assembly), System Programming and Concurrency (C)

Experience

Software Developer (Trading Analytics)   Sept 2024 – Present
Castleton Commodities International   *Calgary, Alberta*
- Constructed library with Pandas, SQLAlchemy, and s3fs to optimize Snowflake and AWS S3 connections for multi-threaded applications, reducing query times by 50%; deployed via Artifactory.
- Led Python 3.11 upgrade, using test-driven development to ensure library compatibility and improve application stability, resulting in a 30% efficiency increase.
- Revamped Dash app architecture to centralize database calls and optimize queries, reducing load time by 95% and a query runtime from 20 minutes to 6 seconds.

Software Developer   Jan 2024 – Apr 2024
The Solution Stack   *Calgary, Alberta*
- Developed iOS Application with Swift, AWS Amplify, and ArcGIS, enabling users to receive real-time alerts and visualizations of active fire hazards in Western Canada through map interface.
- Crafted queue in Swift, leveraging native iOS file system and network monitor to manage and synchronize events through a RESTful Lambda API, enabling 100% app functionality while offline.
- Engineered web application for user management using React.js, TypeScript, AWS Amplify gen 2, and the AWS SDK, reducing user management time across organizations by 80%.
- Instantiated CI/CD pipeline for Event Bridge AWS Lambdas, reducing deployment time by 85%.
- Deployed web application on EC2 utilizing CodePipelines and Lambdas to enable communication across VPCs.

Software Developer   May 2023 – Aug 2023
Unity Aviation Canada   *Airdrie, Alberta*
- Spearheaded company-wide productivity tool from concept to implementation using Microsoft SQL, Django, HTML, CSS, and JS, centralizing important company documents while improving requisition times by 90%.
- Migrated 15+ years of company data into a new SaaS system using T-SQL, ensuring data integrity and availability.
- Implemented unit tests, authentication and authorization, and segregated environments to ensure system reliability before deploying locally with Apache and WSGI.

Projects

OfficeBids | *React.js, Bootstrap, Supabase, Vercel, PostgreSQL*
- Developed web app utilizing Supabase, PostgreSQL, JavaScript, React.js, and Bootstrap enabling employees to vote/bid on new office items during office space relocation, enhancing engagement within the workplace.
- Successfully deployed with CI/CD pipeline best practices on Vercel and Supabase for a private companies usage.

Taxi Fare Estimator | *NumPy, Matplotlib, Pandas, Scikit-learn, Tableau*
- Utilized the Exploratory Data Analysis (EDA) process in Pandas on data from over 400 000 taxi trips.
- Accurately generated predictions on the cost of taxi fares in New York by implementing scikit learn to run regression analysis and presented findings using Tableau and Matplotlib.

Electric Uni-Cycle (Electrium Mobility Design Team) | *C++, Arduino, ESP*
- Engineered real time browser-controlled RC car utilizing the Web Socket protocol on a ESP8266 micro-controller that resulted in 3rd/ 20 in RC competition.

Tokenization For LLMs | *C++, Object Oriented Programming, Data Structures and Algorithms, Ubuntu*
- Developed and optimized a hash table and token dictionary in C++ in order to prepare text input for LLM usage resulting in average constant time implementation.

Technical Skills

Languages: C/C++, Python, Swift, JavaScript, TypeScript, SQL, R, Matlab, HTML, CSS
Frameworks: Flask, React.js, Django, Pandas, NumPy, AWS Amplify 1&2, Bootstrap, SwiftUI, ArcGIS SDK
Technologies: PostgreSQL, Snowflake, SupaBase, GitLab, Vercel, Git, AWS (Lambda, VPC, Cognito, RDS, Aurora, IAM)