Sassan Shokoohi

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WORK EXPERIENCE

Beaty Biodiversity Museum @ UBC • Vancouver, BC, Canada — Nov. 2021 - May 2022

Database and Web Developer • Python, PHP, Bootstrap, FileMaker • (Part-Time)

- Built an Optical Character Recognition (OCR) pipeline to scan and organize 45,000+ organism images using Python
- Eliminated over 20 critical bugs and enhanced the UI and UX of PHP web app used to browse the Museum's databases
- Improved load times for 100+ daily users when searching FileMaker databases by 70% using indexes and intelligent sorting
- Developed a [Download Dataset] feature to allow researchers to download 1000 rows of searched data results for offline use and analytics

Xerus Medical Inc. • Vancouver, BC, Canada — Sep. 2020 - Aug. 2021

Software Engineer • Python, SQL, Postgres, Docker, Kubernetes, Terraform, Helm, AWS, GCP, Vue.js • (Internship)

- Assist in building ETL pipeline using Python to analyze patient data from 3+ hospitals to improve wait times and COVID transmission risk
- Setup and integrate remote deployments using Docker, Kubernetes, Terraform, Helm on AWS
- Reduced setup time and repetitive work by 80% by automating initialization of microservices using custom scripts and Kubernetes' init containers
- Structured and managed over 5 PostgreSQL databases for operations and health data
- Built 3 dashboards with rich health data visualization for a Vue.js app and BI Tools (Superset and Metabase)

TECHNICAL PROJECTS

Paxos Failure Detection • Go, Bash, Azure • (Team of 6) — 2022

- Designed and implemented a distributed failure detection system that supports multiple nodes and clients communicating through RPC on Azure
- Researched and developed Paxos consensus algorithm (acceptors, proposers, learners) to verify real failures versus network partitions
- Optimized algorithm by using a random exponentially increasing backoff to resolve contention; most failures are confirmed in 1 consensus round

Spotify Song Preference (Machine Learning) • Python, Scikit-learn, Jupyter, NumPy, Pandas — 2022

- Trained a Decision Tree Classifier using Kaggle's Spotify Song Attributes dataset (2000+ rows, 17 columns) to predict whether a user liked a song or not
- Optimized the ML algorithm using cross-validation to evaluate the model and optimize the max_depth hyperparameter, achieving 75% accuracy
- More advanced models such as Random Forest, XGBoost or LGBM could perform better since song preference is a complex problem

Campus Lightbox • React.js, GitHub Actions (CI/CD), Semantic-UI • (Engineer Team Lead) — 2018 - 2022

- Lead a team of 4 engineers to prototype, implement and deploy a React web app that allows UBC students to browse, filter, and search to learn about all mental health support resources available on campus.
- Proposed and built a fuzzy search algorithm used over 100 times each month to allow the finding of resources by name or description
- Introduced Continuous Integration and Continuous Delivery (CI/CD) by automating deployments to production and staging by using GitHub Actions
- Contributed to building a resource recommender tool to suggest the best mental health resource for an individual based on 5 questionnaire responses

Places • React.js, Node.js, Express.js, MongoDB, Heroku, Ant Design • (Team of 4) — 2021

- Designed and implemented a web app to help friends find the best places to visit in their city
- Familiarized and engineered the authentication system with salted and hashed passwords & JSON Web Tokens in 1 day
- Built a secure RESTful API to interact with MongoDB using Node and Express and implemented search bar functionality
- Introduced and engineered a cost-effective ($0 during project duration) upload-your-own-image functionality using an external API (Cloudinary)
- Increased productivity by introducing CI/CD using GitHub Actions to test React build and deploy to Heroku in under 5 minutes with each push

EDUCATION

University of British Columbia • Vancouver, BC, Canada — 2019 - 2022

Bachelor of Computer Science - Grade: 86% (3.72/4.33 Overall), 92% (4.00/4.33 Final Year)

- Teaching Assistant (TA) for 6 consecutive terms: Provide teaching assistance in lectures, labs, grading, office hours, and discussion forums
- Coursework: Advanced Databases, Internet & Distributed Systems, Data Structures & Algorithms, Machine Learning, Full-Stack Project

University of British Columbia • Vancouver, BC, Canada — 2012 - 2017

Bachelor of Science - Chemistry, Biology and Environmental Sciences

TECHNICAL SKILLS

Languages: JavaScript, HTML/CSS, Python, SQL, Go, PHP, Java, Bash, C/C++
Frameworks and Libraries: React, Vue, Node.js, Three.js, Chart.js, Bootstrap, Scikit-Learn, NumPy/Pandas, REST APIs
Developer and Cloud Tools: Git, Docker, Kubernetes, Terraform, Helm, AWS, Google Cloud, Azure, Unix/Linux
Methodologies: Agile, Scrum