Joshua Chang

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SKILLS

Languages: Python, SQL, R, Java, C++, JavaScript, HTML/CSS, BASH
Tools and Frameworks: Pandas, PyTorch, TensorFlow, Scikit-Learn, Numpy, Tableau, Git, AWS, Docker, Kubernetes

EXPERIENCE

Data Engineer and Computer Vision Research Assistant | University of Waterloo   *Jan 2023 – Present*
- Utilize **YOLOv5 object detection** to detect the pitcher and analyze the **3D Pose Estimation** of their biomechanics to become more deceptive against batters and detect poor pitching mechanics to limit injuries and increase longevity
- Aggregate and clean Hawkeye baseball data from **SQL databases** and **AWS S3** storages to train various models

Site Reliability Engineer | The Globe and Mail   *Sept 2022 – Dec 2022*
- Created an **AWS Lambda function** using various AWS services, such as CloudTrail, EventBridge, and IAM to **scale Kinesis data streams** to **eliminate under and over utilization**, saving costs on resources
- Migrated **10+ AWS Aurora dashboards** from AWS Cloudwatch to Datadog, collecting **50+** metrics of key health and performance indicators to reduce costs and resources
- Created monitoring and alerting for **2500+ daily AWS Kinesis** queries to catch **30+** anomalies by creating a Datadog metrics monitor provisioned using **Terraform**
- Organized and maintained Datadog dashboards and monitors for **100+ tools and services** to ensure ease of use, reducing navigation times by **75%**

DevOps Engineer | SAP Fioneer   *January 2022 – April 2022*
- Upgraded **Jenkins** production server and associated plugins to address security and vulnerability issues, while also **increasing job performance build times** and **CI/CD pipelines** by **15%**
- Created a BASH shell script to **automate** the process of **backing up SQL databases** to populate Nexus repositories, reducing the amount of manual labor spent by **85%**

PROJECTS

NHL Stat Tracker 🔗   *Python, Jupyter Notebook*
- Created a webapp with **Streamlit** to display regular season statistics of NHL teams and skaters, providing **key performance indicators** that contribute to team success
- Collected, cleaned, and filtered 3k+ rows of data using **Pandas** and **NumPy** to provide graphic analytical insights using **Matplotlib** and **Seaborn**

Volleyball Statistics Program 🔗   *Java*
- Developed an application to track offensive and defensive statistics of players and the team, supplying **analytical feedback** to athletes and coaches to achieve success in future matches
- Implemented a **GUI** to enhance user experience, displaying average scores and percentages of each statistic using **OOP, Methods, and Array Manipulation**

CERTIFICATES

AWS Certified Cloud Practitioner
- Strong foundational knowledge of AWS services and use cases, security concepts, and how cloud impacts businesses

Google Data Analytics Specialization
- Utilizing tools and platforms including SQL, R, Tableau, and spreadsheets to prepare, process, analyze, and share data

Coursera Machine Learning in Sports Analytics
- Exploring supervised machine learning techniques using sklearn toolkit to understand machine learning algorithms and predict athletic outcomes

EDUCATION

University of Waterloo   *Waterloo, ON*
Candidate of Bachelor of Applied Science in Systems Design Engineering
- Relevant Coursework: Data Structures and Algorithms (C++), Human Factors in Design