Joshua O'Callaghan

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PROFESSIONAL EXPERIENCE

Intel – Cloud Software Engineer   May 2021 – Present
- Customer Software Optimization
  - Collaborated closely with high-profile clients to optimize their workloads
  - Improved compression workloads for client, achieving a 12x increase in compression pipeline speed
  - Optimized Kafka workload for client, doubling throughput while reducing CPU utilization by 20%
- Cloud and Systems Management
  - Managed cloud environments (AWS, Azure, GCP) and internal server systems for the broader team
  - Ensured all systems were vulnerability-free while reducing cloud costs by 6% year over year
- Media Processing and Media Benchmarking Expert
  - Collected FFmpeg data and performed media analysis across various cloud/physical machines
  - Created online tool for visualizing and maintaining performance numbers across Intel product line
  - Automated benchmarking and data collections to improve efficiency by 500%
- Led a team of engineers and business management to deliver competitive analysis benchmarking software
  - Coordinated work and product definition while implementing feature changes in the code base

Intel – Software Engineer   Sept 2019 – May 2021
- Visualized data for error analysis with various visualization tools such as Plotly, PowerBI, and Tableau
- Assembled various Python and bash scripts for machine fab automation

American Express – Software Engineering Intern   June 2019 – August 2019
- Redesigned infrastructure for Platform Engineering team
- Administered 4 server nodes running unique applications & tools on a HA Kubernetes cluster

EDUCATION

M.C.S. Computer Science (Big Data)   Dec 2020
Arizona State University, Ira Fulton School of Engineering, Tempe, AZ
B.S. Computer Science (Cyber Security)   Dec 2019
Arizona State University, Ira Fulton School of Engineering, Tempe, AZ
Excelling Coursework:
Data Structures and Algorithms, Algorithm Design & Analysis, Distributed Databases, DBMS Implementation

SKILLS

Programming Languages: Python, Java, C++, C, C#, Bash
Software: Power BI, Tableau, Microsoft Office
Operating Systems: Windows, Ubuntu/CentOs

Big Data: Kubernetes, Docker, Elasticsearch, Hadoop/Spark
Soft Skills: Leader, Communicative, Problem Solver, Innovator
Cloud: AWS, GCP, Azure, Terraform, Ansible
Other: Git, FFmpeg, Docker, SQL, OpenAI, ChatGPT

ACADEMIC PROJECTS

Distributed Databases | Individual Project: Distributed Database Techniques   Spring 2019
- Generated functions to insert, query, sort and join the data from all partitions

DBMS Implementation | Team Project: BigTable Implementation   Spring 2019
- Collaborated in a team of 6 to convert an existing relational DBMS into a Bigtable-like DBMS using Java
- Refactored existing functions and wrote searching/ sorting functions to maintain DB throughout insertion

EXTRACURRICULAR

Software Volunteer - Impact Church   Aug 2024 - Present
- Integrating APIs and developing features for website and app, enhancing digital functionality and user experience

Discord Bot Development   Nov 2022 - Present
- Maintaining bot development for a group of 100 members using Python API calls, async programming and SQL DBMS

Machine Learning Data Engineer - Data Annotation   May 2024 - Jul 2024
- Trained and evaluated machine learning models across multiple programming languages, including Python, C++, JS

Google HashCode Competition   Feb 2020
- Placed 44th in US, 844th globally as a team of four in Google HashCode programming competition