

Ibrahim Alnassar Resume

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EDUCATION

University of Michigan

Ann Arbor, MI

Bachelor of Science in Computer Science Engineering, GPA: 3.91/4.00

Aug. 2020 – May 2024

Courses: Web Systems, Machine Learning, Operating Systems, Data Structures and Algorithms, Algorithms for Data Science, Computer Architecture, Formal Verification of Systems Software, Computer Security, Compiler Construction

Member: Tau Beta Pi Engineering Honor Society

Master of Science in Computer Science Engineering

Aug. 2024 – May 2025

EXPERIENCE

Amazon

Seattle, WA

Software Development Engineer Intern, AWS Support

May 2023 – July 2023

- Implemented functionality for JSON querying in TypeScript within Lambda backend, enhancing a web-based log analysis tool that enables support engineers to efficiently view and search customer error logs
- Created a new interface in the existing frontend using React and Redux to seamlessly support the new query type, ensuring a smooth user experience and improved usability of the log analysis tool
- Developed thorough unit and integration tests using Sinon, Jest, and Cypress to achieve over 95% code coverage
- Performed extensive fixes on several code packages to comply with AppSec requirements, ensuring a smooth product launch

University of Michigan

Ann Arbor, MI

Instructional Aide, Introduction to Computer Organization (EECS 370)

August 2022 – Present

- Led weekly discussion sessions aiming to review and reinforce lecture content to students
- Held regular office hours to assist students with course content, homework, and projects
- Conducted exam review sessions to live audiences of over 100 students

Amazon

Herndon, VA

Software Development Engineer Intern, AWS Security

May 2022 – July 2022

- Created a script to automate the creation of complex mock DynamoDB records with user-defined formats for system testing, providing an efficient alternative to using production data in testing environments
- Streamlined the process of updating and deleting existing records within DynamoDB tables, incorporating user-specified criteria such as time ranges for efficient record management
- Enabled users to collect detailed data metrics by leveraging extensive querying capabilities centered around time-based attributes of records

Saudi Aramco, Research and Development Center

Dhahran, Saudi Arabia

Student Intern

May 2021 – June 2021

- Independently led a project focused on automating image analysis of immiscible liquid dispersions using computer vision, reducing analysis time from two hours to less than a minute
- Employed a convolutional neural network capable of identifying individual droplets within a dispersion image and extracting relevant information such as diameter, quantity, and confidence

PROJECTS

Thread Library: Developed a multiprocessor-compatible thread library in C++ with support for mutexes, conditional variables, and join operations

Search Engine (*Python, Flask, Hadoop, SQLite*): Designed and implemented a scalable search engine, leveraging information retrieval techniques such as TF-IDF and PageRank. Developed an inverted index using a MapReduce pipeline, an index server with a REST API to provide search results in JSON format, and a user-friendly interface to deliver search functionality like leading search engines

Image Classifier: Implemented a convolutional neural network using PyTorch to classify images of ten different dog breeds, utilizing transfer learning, data augmentation, and regularization techniques to improve model performance

TECHNICAL SKILLS

Languages: JavaScript/TypeScript, C/C++, Python, Verilog

Frameworks/Libraries: React, Redux, Node.js, Sinon, Mocha, Jest, Cypress, XPath, Flask, Hadoop, PyTorch

Technologies: Git, Unix, vim, VS Code, AWS: CDK, Lambda, CloudFormation, S3, DynamoDB, IAM