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SKILLS

Java

Python

Bash

C

Clojure

Racket

SML

Prolog

VB.NET

SAS

R

JavaScript

TypeScript

jQuery

Node.js

ReactJS

React Native

Vue.js

AWS

GCP

ASP

SQL

HTML

CSS

Linux

Git

LANGUAGES

English

Native or Bilingual Proficiency

Arabic

Native or Bilingual Proficiency

French

Limited Working Proficiency

INTERESTS

Tennis

Basketball

Boxing

Hiking

Rock climbing

Linux customization

Omar Hilal Shaban

Creative problem-solver with experience in bringing ideas to life using a multitude of development tools and technologies

EDUCATION

Master of Science in Computer Science

University of North Carolina at Chapel Hill

Graduate Teaching Assistant, Machine Learning Researcher

Expected May 2022

Bachelor of Science in Computer Science, Bachelor of Science in Statistics and Analytics

University of North Carolina at Chapel Hill

GPA 3.98

May 2021

Developed a **Linux shell** in C, implemented the core functionality of **Git** in Clojure, wrote a **miniJava compiler** in Java.

WORK EXPERIENCE

Software Development Engineer - Intern

Amazon Seattle, WA

05/2021 – 08/2021

- Implemented an efficient host allocation algorithm for a distributed storage system.
- Employed a persistent hashing mechanism to assign data replication threads to healthy hosts.
- Improved the runtime performance from linear in number of threads and hosts to constant time whenever a change in the system occurs.

Software Development Engineer - Intern

Amazon Seattle, WA

05/2020 – 08/2020

- Implemented an issue reporting feature in Point-of-Sale terminals for use by associates in physical stores.
- Operated on the full stack with **Java** on the back-end, **Vue.js** on the front-end. **Selenium** and **Jest** used to write full test suite.
- Presented a fully documented, implemented, and tested feature that meets the requirements specified by product manager.

Software Testing Intern

SAS Cary, NC

05/2019 – 08/2019

- Identified and implemented improvements to the software testing framework used to test risk management software.
- Enforced input validation rules and password encryption to refine security and integrity of testing framework.
- Enhanced the runtime performance of various testing functions by factors of 2 to 6 depending on the function.

Full-Stack Development Intern

AI Tracking Solutions LLC Carrboro, NC

11/2018 – 11/2019

- Developed and maintained a Google Cloud web application which hosts the company's particle tracking services.
- Implemented back-end using **Python** and the **Flask** framework and created an interactive UI using **JavaScript** and **ReactJS**.
- Designed user interfaces for previewing processed videos and an admin portal to manage users and auto-generated tickets.

Software Developer

Skynet Robotic Telescope Network Chapel Hill, NC

01/2018 – 12/2018

- Integrated an algorithm that processes and cleans radio data into the Skynet Robotic Telescope Network.
- Created a data model for radio files and processing jobs using **Python** and **SQLAlchemy**.
- Pioneered the development of a **Python** API that allows users to schedule and trigger observation events that focus all observational resources on a major astronomical occurrence when it is announced by LIGO, NASA, etc...

PROJECT EXPERIENCE

BloodBankPro

01/2017 – Present

- Wrote an algorithm that automates the selection of blood reagent samples from a database so that they can be tested against patients' serum samples.
- Developed the desktop application using **Java** and the web application using **Classic ASP**, **Python**, and **Selenium**.
- Used by the Transfusion Medicine Services at UNC Hospitals for over a year where it saved 20-40 hours of work per week compared to manual sample selection.

PUBLICATIONS

Co-author: **Skynet Algorithm for Single-Dish Radio Mapping I: Contaminant-Cleaning, Mapping, and Photometering Small-Scale Structures.** *The Astrophysical Journal Supplement Series*, vol. 240, no. 1, 2019, p. 12.

Co-author: **Developing a Student Attendance App Using QR Codes: Educational and Practical Considerations.** *International Journal of Technology Enhanced Learning*, vol. 1, no. 1, 2020, p. 1. *Inderscience Publishers*, doi:10.1504/ijtel.2020.10032123.