

Taha Al-Nufaili

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EDUCATION

University of Maryland, College Park

Expected: May 2024

B.S in Computer Science & Minor in Statistics

GPA: 3.7 / 4.0

Coursework: Advanced Algorithms, Intro to ML, Advanced Data Structures, Intro to Data Science, Discrete Structures,

Computer Vision, Systems Architecture, Web Application Development, Game Programming, Object-Oriented Programming

Full-ride KGSP scholarship, awarded yearly to 100 students.

SKILLS

Coding: Python, Swift, JavaScript, Java, C#, C, Ruby

Data/ML: Keras, PyTorch, Pandas, Sklearn

Cloud Databases: Firebase, MongoDB

Front-end: SwiftUI, React

Tests: 841/850 on CodeSignal's General Coding Assessment

WORK EXPERIENCE

Application Developer Intern (mascot-vis.github.io)

College Park, MD | Sep - Now 2023

Human-Data Interaction Group

- Working as part of a development team on Mascot.js, a data visualization API, using JavaScript and React.
- Implementing high-level abstractions and flexible rendering options in SVG and WebGL.

Research Intern (shorturl.at/fuN39)

Thuwal, SA | June - Aug 2023

KAUST AI Initiative

- Led the design and implementation of a standardized benchmarking pipeline for multi-modal Large Language Models (LLMs), creating an object-oriented structure to encapsulate any model for seamless integration.
- Utilized PyTorch to modify existing LLMs for batched inference, optimizing for A100 GPUs in the IBEX remote cluster.
- Evaluated LLMs on object and action recognition tasks, using metrics calculated against image & video datasets.

Machine Learning Intern (shorturl.at/kqEX7)

College Park, MD | Feb - May 2023

NASA Harvest

- Employed Google Earth Engine API to split labeled 1-year image composites into 3-week intervals, overlay coordinates, and export imagery to Google Drive.
- Selected features post-preprocessing using both Random Forest Ranking and custom-designed Separability Metrics.
- Utilized Random Upsampling to balance data, then built a 1D CNN model in TensorFlow and evaluated using F-1 scores.
- Presented findings on stage at the Global Sustainable Development Congress 2023.

Software Engineer Intern

Lanham, MD | Jun - Aug 2022

Science Systems and Applications, Inc. (SSAI)

- Collaborated with NASA scientists to develop cloud-detection neural networks using Keras, based on 18 features.
- Achieved 6X faster processing by applying multi-threading and managed a 5-million-observation dataset with Xarray.
- Used Matplotlib & Bokeh for visualization and DVC for optimization; presented findings to 50+ people at SSAI.

PROJECTS

Open-Source Portfolio Template (github.com/ta0a2000t/casuafolio)

Sep - Now 2023

- Built & published an open source React template, to present a well-rounded version of an individual.
- Allowed one-file customization without requiring coding skills, making it accessible.
- Wrote comprehensive setup and personalization guides.
- Reviewing pull requests and managing issues submitted by contributors.

Social IOS App

Aug - Now 2023

- Incorporated Firebase for login authentication & real-time data syncing between local storage and Cloud Firestore.
- Structured the app using three core classes: User, Community, and Event, and designed object-oriented relationships.
- Implemented the MVVM design pattern in SwiftUI & Swift for a scalable and maintainable codebase.

MIPS Processor Simulator

Nov 2021

- Built a cycle-accurate pipelined C program that reads and compiles MIPS assembly instructions.
- Implemented forwarding between stages in the 5-stage pipelined processor to reduce stalls.

Data Science Tutorial (<https://ta0a2000t.github.io/>)

Dec 2021

- Showcased the steps needed to tidy tables into easy-to-manipulate data frames using Pandas.
- Demonstrated skewed data handling techniques, like logarithmic representation and data trimming, using Sklearn.

VOLUNTEER

- 3+ hrs/week to environmental conservation; mentored in ML and web dev at Bitcamp and Technica Hackathons.
- Scored 200+ sheets at MATHCOUNTS; contributed to church renovation in Austin, TX.