

ILIAS ALABDULAAL

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EDUCATION

M.S. in Computer Science

Anticipated: December 2025

King Abdullah University of Science and Technology (KAUST)

B.S. in Computer Science, Minor in Data Science

Anticipated: May 2024

University of Wisconsin-Madison (UW-Madison), GPA: 3.99/4.0

- Relevant Coursework: Data Structures, Systems Programming, Operating Systems, Artificial Intelligence, Algorithms, Statistics, Networks, Information Security, Big Data Systems, Data Sci Modeling & Programming

SKILLS

Programming Languages: Python, C, Java, SQL, CQL, HTML5, CSS, JavaScript, R

Dev Tools: Git, Docker, React/Express/Node.js, Django, Google Cloud, Linux, JIRA, REST APIs, Selenium, Flask

Data Science & Machine Learning: PyTorch, PyArrow, NumPy, Pandas, Matplotlib, Scikit-learn, SciPy

Databases & Big Data: MySQL, Spark, BigQuery, Cassandra, Kafka, Hadoop

Spoken Languages: Fluent in English, Japanese, and Arabic

EXPERIENCE

Software Engineer Intern – PBS

January 2024 – Present

- Currently building a caption file to HTML transcript converter using React, Express, Node.js, and GenAI

Computer Science Tutor – Undergraduate Learning Center

January 2023 – Present

- Holding weekly tutoring sessions for ~50 students in 2 data structures and algorithms classes by summarizing lectures, helping with homework problems, debugging projects together, and leading group discussions

Full Stack Software Engineer Intern – Aramco Americas

May 2023 – August 2023

- Led the design and deployment of a key RESTful full-stack application using React with Node.js and Python with Django which automated manual processes like distillation curve plotting and fuel property comparisons, enhancing workflow efficiency up to 80%
- Built multiple RESTful API endpoints using Axios and Django REST Framework, facilitating seamless communication between the server the 100 client researchers
- Collaboratively integrated a deep neural network in Python and Node.js, achieving an average of 98% accuracy in predicting distillation curves from chemical fuel compositions
- Optimized user experience by implementing interactive data visualizations using Chart.js and designed a user-centric frontend UI with Material UI

Undergraduate Researcher – Vertical Research Group

January 2023 – May 2023

- Coded and trained a quantized convolutional neural network in Python, achieving 98% accuracy. Utilized the model's quantized weights in a C-based LeNet-5 implementation to optimize it for the RISC-V compiler architecture
- Analyzed the behavior of C programs with odd memory accesses when run on RISC-V compiler architecture

Front End Software Engineer Intern – Dow Inc.

June 2022 – August 2022

- Developed the [Cool Roof Energy Calculator](#) web application, using JavaScript, HTML5, and CSS3, providing valuable energy efficiency and total cost insights for B2B Dow customers
- Utilized marketing call notes to construct a text-data manipulation, analysis, and visualization pipeline using Power BI and SAP HANA, which automated manual tasks and reduced analysis time from 6 hours to 5 minutes
- Built and tested multiple features for the next-gen version of an internal application on Power Apps

PROJECTS

Network Intrusion Detection System (Python, PyTorch, NumPy, Docker)

November 2023

- Engineered a PyTorch-based multiclass classification neural network for accurate identification of diverse cyber threats in a containerized Docker environment using network traffic data
- Orchestrated data processing, model training, and validation loops, achieving 96% multi-class accuracy

Distributed Network Filesystem (C, Unix, UDP, Git)

December 2022

- Deployed a client API library in C to manage multiple UNIX filesystem images in a network, working in a team
- Devised a filesystem image editing server and is natively connected to the client library through the UDP protocol