ABDULRAHMAN ALSHAHRANI

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EDUCATION

The University of Texas at Austin   Austin, TX
Bachelor of Science in Computer Science; GPA: 3.61/4.00   *May 2025*

    Relevant coursework: Machine Learning, Linear Algebra, Discrete Math, Probability, Cloud Computing, Software Engineering, Object Oriented Programming, Algorithms, Data Structures, Computer Architecture, Operating Systems, Compilers

SKILLS

Languages: Python, C++, C, Java, JavaScript, TypeScript, SQL

Technologies: Google Cloud, Vercel, Docker, React.js, Next.js, Clerk, Stripe, SendGrid, PyTorch, SciKit-Learn, Figma, Blender

EXPERIENCE

Aramco – Aramco Research Center   KAUST, Saudi Arabia
AI Engineer Intern   *Jun 2024 – Aug 2024*

- Enhanced the synthetic data for a **CNN** industrial equipment classification model by creating 3D renders in **Blender**, improving lighting, customizing textures, and creating **Python** utility functions to streamline the process.
- Captured and processed 360-degree **HDRi** images, integrating them with the 3D renders, significantly boosting the model accuracy from **52%** to **72%**.
- Contributed to a project involving change detection of multi-spectral images by gathering datasets, testing models in **PyTorch**, and creating a flexible repository for testing different models.

UT Austin – Software Engineering Class   Austin, TX
Undergraduate Course Assistant   *Jan 2024 – May 2024*

- Supervised **6** student groups in developing full-stack websites, guiding them with project architecture design.
- Reviewed **+30** weekly student blogs, monitoring their progress, and reporting them to the professor.
- Conducted weekly office hours to assist students with understanding course concepts and fixing technical issues.

USC Viterbi School of Engineering – Data Science Lab   Los Angeles, CA
Research Intern   *Jun 2022 – Aug 2022*

- Implemented the Canonical Polyadic (CP) Tensor Decomposition algorithm using the Tensor Algebra Compiler library.
- Ran the CP algorithm on arbitrary data, compressing **+90%** of the data while maintaining its statistical significance.
- Presented the CP algorithm and the experiment results in a department-wise symposium.

PROJECTS

GILD Mail | Vercel, Next.js, Stripe, Clerk, Supabase, SendGrid | *gild-mail.com*   *Mar 2025*

- Developed GILD, a full-stack web application enabling users to exchange paid letters through emails.
- Designed isolated production and development environments, each maintaining separate profiles, balances, and API keys for proper testing and deployment.

The Word Engineer | Python, Flask API, React, IBM Watson API | *GitHub.com/Abdomash/allam-challenge*   *Nov 2024*

- Competed in a competition to develop enhancements for ALLaM, a new Arabic-focused large language model.
- Enhanced ALLaM in Arabic poetry generation by using a semi-hardcoded Poem Analyzer to evaluate linguistic accuracy.
- Developed a trial-and-error mechanism to let the model iteratively generate poems and retry upon detecting errors.
- Applied chain-of-thought techniques, allowing the model to create a structured poetic plan before generating verses, enhancing coherence and quality.

California Wildfires | AWS, React, MySQL, Figma, Amplify UI, Selenium | *GitLab.com/cs373-group20/idb*   *Dec 2023*

- Collaborated with a team of **5** to develop a web application, connecting recorded wildfires with nearby fire protection facilities and California counties.
- Designed responsive React components with modifiable properties, using **Figma** and **Amplify UI**.
- Implemented efficient sorting, filtering, and searching functionality for **+1400** elements.
- Built a multi-stage **CI/CD** pipeline to run and automate GUI acceptance tests using **Selenium**.