

# ASHKAN ARABI

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## EDUCATION

### Bachelor of Science in Computer Science, Mathematics Minor

University of Texas at El Paso, El Paso, TX

Graduating 05/26

GPA: 3.95

Major GPA: 4.00

Relevant coursework: Object-Oriented Programming, Data Structures & Algorithms, Operating Systems, Machine Learning

## SKILLS

**Languages:** Python(advanced), Java(advanced), Vala(mid), HTML/CSS(mid), JavaScript(mid), UML(mid), Bash(mid), Haskell(mid), LaTeX(novice), C++(novice), C(novice), SQL(novice)

**Tools:** Linux(advanced), Git(advanced), GTK(mid), PyTorch(mid), TensorFlow(mid), NumPy(mid), Pandas(mid), Matplotlib(novice)

## EXPERIENCE

### Information Technology Intern: Texas Instruments, Dallas, TX

May 2024 - present

- Maintained automation software for chip fabrication operations.

### Open-Source Contributor: GNOME Foundation, Remote

December 2023 - present

- Contributed to the development of GNOME Clocks, an **app used by thousands of Linux users** to keep track of time.
- Add features such as full-screen timers and timer editing. (in progress)
- Fixed timers not progressing during system suspend by revising timer logic. (merged)
- Added functionality to world clock to show country and state when two cities have the same name. (open)

### Undergraduate Research Assistant: UTEP, El Paso, TX

January 2024 - May 2024

- Contributed to creation of Autistic vs neurotypical speech classifier by using AI/ML to synthesize training data.
- Developed an **accent-changer model** able to convert foreign English accents to native using **HuggingFace** pretrained models through their **Python** API.
- Implemented a **neural style-transfer model** in **PyTorch** to learn PyTorch & explore usage for accent-changing.
- Reduced evaluation script runtime from 24+ hours to 10 minutes by rewriting looped tasks as higher-dimension tensor operations.

### Undergraduate Research Intern: Temple University, Philadelphia, PA

June - July 2023

- Published **paper** presented at ACM MobiHoc about using Wi-Fi CSI for hand gesture recognition on smartphones.
- Developed CNN architecture to classify 5 gestures from 4 people in 6 scenarios using **Keras**.
- Obtained >90% classification accuracy by using techniques such as LR Scheduling.
- 1st place for the best REU site final presentation.

## PROJECTS

### Bombshell - UNIX shell written in Python

April 2024

- Added features like pipes, redirection, and background tasks by using multi-threading and semaphores, ensuring concurrency.

### CLI Car Dealership

April 2024

- Wrote an Object-Oriented car dealership software in **Java** following MVC architecture & OOP design patterns.
- Used Git & GitHub features such as pull requests, merges, branches, and rebasing for collaborating in team of 3.

### Linux Timer

January 2024

- Developed a **Linux** timer application using **GTK & Vala**, using an event-driven architecture.
- Implemented functionalities for starting, pausing, resetting, and editing timers, using different GTK4 widgets & signals.

### Advent of Code 2022 - Annual Programming Challenge

August 2023

- Coded **C++** solutions to 12 of 25 challenge questions using backtracking, graph traversal algorithms, and more.
- Used classes, queues, vectors, and streams to efficiently calculate results based on given inputs.

### Tic Tac Toe Web App

Fall 2022

- Developed a tic-tac-toe game using **HTML, CSS, and JavaScript**, with a special focus on the visuals.
- Used JavaScript to manage game state, handle player moves, and determine game outcomes.

## LEADERSHIP

### President & Founder - Free and Open Source Software Club at UTEP

December 2023 - Present

- Recruited team of 6 officers to host weekly workshops on git, Linux, Vim, open-source contributing, and more.
- Hosted UTEP's **first open-source hackathon**, OpenHack, attended by more than **12 first-time contributors**.

### Treasurer - Association for Computing Machinery at UTEP

August 2022 - January 2024

- Held the Sun City Hackathon; a three-day competition attended by **more than 20 students** to develop AI-powered apps.