

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: 3.94

Major GPA: 4.00

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

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)

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

EXPERIENCE

Upcoming Information Technology Intern: Texas Instruments, Dallas, TX

May - August 2024

Undergraduate Research Assistant: UTEP, El Paso, TX

January 2024 - present

- 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.
- Used Python's multiprocessing library to parallelize CPU-intensive experiments.

Open-Source Contributor: GNOME Foundation, Remote

December 2023 - present

- Modernized GNOME Clocks' UI to add features such as full-screen timers and timer editing. (in progress)
- Fixed GNOME Clocks timers not progressing during system suspend by revising timer logic. (merged)
- Added functionality to world clock to show country and state in case two cities have the same name. (open)
- Translated the GNOME Builder IDE to Persian.

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

CLI Car Dealership

April 2024

- Wrote an Object-Oriented car dealership software in **Java** following MVC architecture, with 2300+ lines of code.
- 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.

Pong for MSP430

November 2023

- Designed and implemented a **C** Pong game for MSP430, with paddle movement, ball physics, and score tracking.
- Achieved 30+ FPS gameplay by using partial framebuffer updating instead of redrawing whole screen.
- Integrated buzzer audio feedback for game events such as ball-wall collisions and score updates.

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

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