ASHKAN ARABI

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EDUCATION

Bachelor of Science in Computer Science, Mathematics Minor   Graduating 05/26
University of Texas at El Paso, El Paso, TX   GPA: 3.95
                                                                                            Major GPA: 4.00

Relevant coursework: Machine Learning, Object-Oriented Programming, Data Structures & Algorithms, Matrix Algebra

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
- Developed scripts for automated guided vehicles in AutoShell (proprietary scripting language) to use in chip fabrication.

Open-Source Contributor: GNOME Foundation, Remote   December 2023 - present
- Collaborated with software engineers in development of GNOME Clocks; **used by thousands of Linux users** to track time.
- Added 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 generative AI 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 loops as higher-dimension tensor operations.

Student Coordinator: AI4ALL, Remote   August - December 2023
- Mentored 16 students across 4 project groups in AI4ALL's Apply AI program.
- Helped students understand concepts such as loss functions, optimization, neural networks, CNNs, reinforcement learning, etc.

Undergraduate Research Intern: Temple University, Philadelphia, PA   June - July 2023
- Wrote **first-author publication** ⧉ presented at ACM MobiHoc about using Wi-Fi CSI for hand gesture recognition on phones.
- 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.

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.