Andrew McLaughlin

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Education

The University of Texas at Arlington GPA: 3.81
Bachelor of Science, Computer Science *Aug. 2021 – May 2025*

- Association for Computing Machinery Member - Spring 2023, Fall 2023
- Dean's List - Spring 2023
- Relevant Coursework: Data Structures and Algorithms, Secure Programming, Linear Algebra, Intro to Software Engineering, Operating Systems, Databases, Theoretical Computer Science, AI, Networking

Collin College GPA: 3.54
Associate of Science *Aug. 2017 – Dec 2020*

Experience

Software Engineer Intern June 2024 – Aug 2024
eMetric

- Integrated eQueue, a microservice that enables the client to handle CSV file uploads asynchronously, allowing users to continue their work without being tied down by file processing times
- Implemented a dynamic upload history table displaying real-time task statuses, leveraging eQueue's API to provide users with continuous updates on the status of their queued uploads
- Developed a fallback mechanism to toggle between the new eQueue-powered workflow and the legacy system, maintaining operational continuity in case of eQueue downtime

Projects

Textract | *Go, OpenGL, RobotGo, OCR* Dec 2024 – Present

- Developed a high-performing desktop application in Go that allows users to extract text from selected areas of their screen, simulating a lightweight and snappy screenshot tool
- Engineered the GUI using OpenGL and GLFW to provide a minimal, responsive interface with a draggable selection box
- Implemented robust in-memory image handling to bypass unnecessary disk I/O, ensuring fast and secure processing of captured data

Cloud Chat | *Remix, Node, AWS, Redis, Socket.IO* Oct 2024 – Dec 2024

- Architected a highly scalable, real-time chat application using AWS and WebSockets to handle concurrent users with near-instant messaging
- Added smart collaboration features such as file attachments, multi-user conversations, online/offline status tracking, and easy user look up
- Implemented secure authentication via Okta/Auth0 and leveraged Redis to synchronize messaging context across multiple servers in a highly available AWS environment

Traffic Counter | *OpenCV/Computer Vision, C++, CMake* Jul 2023 – Aug 2023

- Pioneered the development of an advanced video processing pipeline in OpenCV, accurately counting vehicles traveling east and west on a busy road, demonstrating fundamental computer vision techniques
- Implemented a sophisticated background subtraction method to distinguish moving vehicles from a static background, ensuring precise and reliable vehicle detection
- Devised and integrated intelligent activation zones for each lane, using center of mass detection to track and count vehicles crossing specific boundaries, showcasing innovative problem-solving skills

Certifications

AWS Certified Cloud Practitioner Jan 2024
Amazon Web Services

AWS Certified Solutions Architect - Associate Jan 2025
Amazon Web Services

Technical Skills

Programming Languages: C/C++, C#, Python, JavaScript, Java, SQL, HTML/CSS
Frameworks: React, Next.js, Node.js, Express.js, Flask, Flux/Fluxible
Libraries: OpenCV/Computer Vision, NumPy, Matplotlib, Selenium, SciPy, Mongoose, Jest, MongoDB
Technologies and Tools: Agile, Scrum, Waterfall, Object-oriented Design, AWS, OAuth, MySQL, Git, GitHub, Postman, Firebase, Docker, Unix/Linux, Windows