

# Brook Asnake

(214) 429-7790 | [brooka048@gmail.com](mailto:brooka048@gmail.com) | Allen, Tx  
[linkedin.com/in/brook-asnake-3b7161327/](https://www.linkedin.com/in/brook-asnake-3b7161327/) | [github.com/Brook-A-CS](https://github.com/Brook-A-CS)

## EDUCATION

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### Texas A&M University

Bachelor of Science in Computer Science, Minor in Statistics

GPA: 3.78

Aug. 2023 – May. 2027

**Courses:** Data Structures & Algorithms, Discrete Structures For Computing, Machine Learning

## TECHNICAL SKILLS

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**Languages:** C++, Python, Swift, JavaScript, ReactJS, Java

**Frameworks:** ReactJS, MongoDB, AWS, Git, REST APIs, Selenium, Tesseract, FastAPI

## EXPERIENCE

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### Software Developer Intern | *Python, AWS, Tesseract, Vector store, FastAPI*

Jun. 2025 – Present

*Excelleron*

*Dallas, TX*

- Designed and deployed a **RAG (Retrieval Augmented Generation)**, increasing user query accuracy through improved document retrieval and LLM integration.
- Automated **OCR** and data extraction pipelines using PyMuPDF and **Tesseract** to convert scanned PDFs into .txt and .csv formats, unlocking **4x** more usable data.
- Engineered a **vector store database** with accurate data categorization and segmentation allowing for quick and accurate context driven retrievals.
- Provisioned a **32 vCPU AWS EC2 instance** to run intensive scraping workloads, achieving a **20x speedup** in through parallel processing.

### Computer Science Teaching Assistant | *C++, Unix*

Aug. 2024 – Present

*Texas A&M University*

*College Station, TX*

- Supported a **Data Structures & Algorithms** course with **400+ students**, explaining and teaching fundamental concepts through **C++** alongside a large team of TAs.
- Led lab sessions for a classroom of **30+ students**, going over data structures and algorithms including: sorting algorithms, arrays, binary trees, linked lists, hashes, and graphs.
- Held open office hours to offer students guidance through varied material covered in class including data structures, memory allocation, data analysis through aiding planning and debugging.
- Hosted structured review sessions each week where students could ask questions and receive homework help.

## PROJECTS

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### DMV Appointment Automation Tool | *Python, Selenium*

Feb. 2024

- Developed an automation tool using **Python** and **Selenium** to streamline appointment rescheduling on Texas DMV website.
- Engineered a script to continuously check for earlier appointment slots.
- Implemented logic to detect availability changes and notify the user in real-time, allowing manual confirmation.
- Enhanced user efficiency by reducing time spent manually refreshing DMV website, increasing the chances of securing earlier appointments.

### Calendar Scheduling Web App | *Javascript, ReactJS, MangoDB*

Jan. 2023 – Apr. 2023

- Integrated a **RESTful API** with a **ReactJS** front-end to develop a dynamic, multi-page scheduler application, enhancing user experience and app functionality.
- Designed and implemented a **MongoDB** database to store and manage user data efficiently, ensuring data integrity and scalability.
- Collaborated with a team to test and deploy application, reducing load times by **20%**