

# Irfan Thomson

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## EDUCATION

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**The University of Texas at Austin**

*Bachelor of Science in Computer Science*

Austin, TX

May 2025

## SKILLS

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**Frameworks:** Flask, React, Node.js, MySQL

**Languages:** Java, Python, C, HTML/CSS, Swift

**Other:** Docker, AWS, VSCode, Linux, Jupyter Notebook

## EXPERIENCE

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**902 Youth**

August 2023 – Current

*Web Development Intern*

*Remote*

- Spearheading the migration of the static company website to a from-scratch HTML/CSS solution deployed with AWS Amplify to save 50%+ company hosting costs and improve its design, functionality, and scalability.
- Building a CI/CD pipeline with Github Actions for robustness and a headless CMS to create an interface for non-technical employees to adjust website content.
- Collaboratively developing 10+ easy-to-hard coding projects and a curriculum used to teach kids aged 12-16 in learning programming and web development.

**Code Ninjas**

August 2019 – February 2021

*Coding Instructor*

*College Station, TX*

- Mentored 50+ students through a coding curriculum, facilitating learning through the creation of games using Scratch, JavaScript, and Unity.
- Developed a debugging method to grade 200+ student projects with feedback at more than 2x the expected efficiency.
- Adapted to pandemic constraints by effectively spearheading two STEM summer camps and managing online coding classes.
- Pitched the Code Ninjas program to students and parents resulting in approximately 20 new sign-ups.

## PROJECTS

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**AI Flashcard Learning Website**

- Developed an AI-powered flashcard learning system with React, integrating Chat-GPT for question and feedback generation.
- Designed a robust Flask backend managing comprehensive deck libraries, question banks, and user data, optimizing the handling of complex relational data.
- Currently implementing a comprehensive user authentication system, enabling mastery tracking, personalized review quizzes, and statistical progress displays.

**NCAA Database Website**

- Created a complex, interconnected RESTful API with a Flask webapp and MySQL database to interface all of the NCAA's basketball data.
- Implemented sorting, searching, and filtering basketball teams, players, and games.
- Collaborated in a development team for four months to create a polished final product, receiving top evaluations by objective peer-reviewers.
- Hosted at [marchmadnessmayhem.me](https://marchmadnessmayhem.me) using AWS Elastic Beanstalk, RDS, and Amplify

**AI Text Analysis Website**

- Implemented various in-depth text analysis and text generation options with built-in Chat GPT.
- Incorporated an automatic AI self-analysis process shown to improve AI accuracy by 20%.
- Hosted manually at [textprocess.irfanthomson.com](https://textprocess.irfanthomson.com) with nginx on an AWS Lightsail instance.

**Operating System**

- Created a custom operating system in C, including virtual memory allocation, system calls, and scheduling.
- Implemented virtual memory management algorithms to support demand paging and swapping.
- Developed system calls to provide process control and inter-process communication.
- Designed and implemented a scheduling algorithm to manage the allocation of CPU time to processes.