

# Shlok Bhakta

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## SKILLS

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- C++, Python, Java, Git, JavaScript, TypeScript, Astro JS, Haskell, Assembly, C (embedded), SQL
- CI/CD, Github Actions, CPU Design, Self-Hosting (Docker), Blender 3D, Digital Forensics, Networking

## Projects

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### **Build A Rocket:** *Aggie Coding Club Project Manager*

- Achieved ultra-responsive data visualization by spearheading the development of a **Python QT** application resulting in sub-millisecond delay in live telemetry graphing.
- Enabled seamless live telemetry transmission from a rocket by teaching students the **Arduino framework** with **C++** resulting in enhanced real-time data reliability.
- Facilitated successful rocket launches by designing a custom **PCB** using **EasyEDA** for ground and rocket radios resulting in comprehensive real-time telemetry.

### **RISK CPU:** *Lead Programmer, Arithmetic Logic Unit Design*

- Enabled the ability to perform math calculations by designing the Arithmetic Logic Unit using basic logic gates for a functional **RISC CPU** resulting in the capability to run custom **Assembly** code.
- Achieved efficient matrix multiplication and array sorting by solely creating three programs in a **custom assembly language** resulting in optimized computational performance.

### **Personal Website:** *Full Stack Web Development*

- Earned a perfect performance scores on **Google Lighthouse** by creating a website, blog, and content management system with **Astro JS** and **Svelte** resulting in exceptional user experience and optimization.
- Handled 5000 concurrent connections by rolling out **Pocketbase** completely self-hosted in **Docker** resulting in robust and scalable backend infrastructure.
- Learned to automate site deployment by configuring a **GitHub Action** to build the site into a **Docker container** upon code merge resulting in seamless integration and continuous delivery.
- Enhanced web security and accessibility by serving the site using **Nginx** through **Cloudflare tunnels** resulting in **DDoS protection** and reliable web access.

## Events

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### **Tamu Datathon:** *Prompt Injection, Web Scraping*

- Achieved 2nd place in TAMU Datathon Lite by leading **web scraping**, **data interpolation**, and **prompt injection** challenges.
- Devised innovative prompt injection techniques to extract secret phrases, earning the highest individual score

### **Tamu CTF:** *Forensics. Web Exploitation*

- Secured 2nd highest team points in a cybersecurity CTF by deconstructing a Minecraft mod **JAR file** using **IntelliJ IDE**, reading data stored in Minecraft blocks, and reconstructing the **Linux Filesystem** in **Python** to retrieve the flag.
- Exploited a **PHP** website vulnerability through **SQL injection** by modifying **unsanitized cookies** with **CyberChef**, successfully extracting the admin flag.

## EDUCATION

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**Texas A&M University** || College Station, TX

08/2022 - 05/2026

*Bachelor of Computer Science : Minor in Cybersecurity*

**Relevant Coursework:** Program Design & Concepts, Data Structures and Algorithms, Machine Organization and Programming, Database Systems, Introduction to Computer Systems, Foundations of Software Engineering