

John Friess

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EDUCATION

The University of Texas at Austin

May 2024

B.S. Computer Science (*Turing Scholars Honors Program*)

- GPA: 3.90

EXPERIENCE

American Systems | Chantilly, VA

June 2022 - August 2022

Software Engineer Intern

- Developed fullstack web application to find similar documents based on text similarity with **Django** and **jQuery**
- Explored machine learning applications for text recognition with **NumPy** and **Pandas** libraries
- Performed data visualizations to facilitate decision-making and identify discrepancies using **Excel** and **SQL**
- Updated employee profile database of 1,500+ employee profiles and corrected mismatched entries

SWARM Laboratory at the University of Texas | Austin, TX

September 2022 - Present

Undergraduate Researcher

- Assisted development for the token economics of a Blockchain-based decentralized network
- Created program to simulate and model token dynamics using data from Helium and Pollen in **Python**
- Defined how the number of tokens in the network should respond with greater data usage

Fairfax County Public Schools (FCPS) | Alexandria, VA

April 2022 - May 2022

Information Technology Intern

- Utilized **web debugging proxies**, **web scrapers**, and **SSL web server tests** to ensure new software abides by FCPS standards for security and privacy before implementation to 200,000+ students and faculty
- Conducted experiments on new hardware technologies to determine effectiveness in classroom learning
- Analyzed software performance under stress using scripts in **LoadRunner**
- Restructured components of the FCPS test network router to increase scalability

Givology | Remote

July 2021 - April 2022

Web Development Intern

- Remodeled entire frontend of website to improve simplicity and user interface using **HTML/CSS** and **Liquid**
- Spearheaded transition to a custom Liquid approach, allowing for greater flexibility in the site design
- Utilized stored metadata to efficiently transfer information from the old site to the new site

PROJECTS

Desearch

October 2022

- Worked in team of three to create a decentralized search engine using **Django**, **JavaScript**, and **HTML/CSS**
- Programmed a web crawler from scratch that utilized custom indexing based on user recommendations in **Python**
- Developed smart contracts on the **Solana** and **NEAR** blockchains to store search information in **Rust** and **Python**
- Received the award for Best Consideration of Security and/or Privacy at HackTX 2022

Tetris

June 2021 - July 2021

- Recreated the classic Tetris game in **Java** with randomized falling tetrominoes controlled by user keystrokes
- Designed TetrisBrain, a genetic algorithm-based AI to survive as many falling tetrominoes as possible, that is capable of scoring up to 100,000+ and consistently perform well given different board environments in **Java**
- Performed automated whitebox and blackbox testing in **JUnit** to verify implementation works as intended

RandomContract

June 2022 - July 2022

- Developed **React.js** web application to generate **Solidity** smart contracts on the **Rinkeby** blockchain
- Dynamically created random SVG NFTs from the contracts using **OpenZeppelin** library
- Utilized **Hardhat** and **JavaScript** to test local blockchain deployments and publish NFTs on OpenSea

SKILLS

Languages: Java, Solidity, Python, JavaScript, HTML/CSS, SQL, LaTeX, Liquid, Rust

Tools/Frameworks: Git, Hardhat, Django, jQuery, JUnit, Flask, React, React Native, Excel