Asher Haun

linkedin.com/in/athaun
github.com/athaun
athaun.tech (Portfolio)

EDUCATION

University of Texas Rio Grande Valley — President's List Recipient
Bachelor of Computer Science (Senior) — Overall GPA 3.93
Expected Graduation: **Fall 2024** — Departmental GPA 4.00

SKILLS

- Ruby, Rails
- JavaScript, TS
- Java
- C#
- Python
- C++
- SQL
- MongoDB
- Nvidia Cuda
- HTML & CSS
- Linux
- Git
- Server DevOps
- Web Design
- Web Development
- Agile/SCRUM
- Technical Writing
- Research
- Public Speaking
- Leadership

EXPERIENCE

Software Engineer – Idaho National Laboratory | *Internship*. Summer 2024
- Developed safety-critical software in support of nuclear energy research at the Materials and Fuels Complex.
- Used Ruby on Rails and Typescript with Angular in a split architecture web application.
- Built complex features, fixed bugs, participated in beta testing, customer support and the application release cycle.

Software Engineer – UTRGV | *Contract*. 2022-2024
- Architect and developer of an application designed to enhance progress reporting.
- Tailored to accommodate a unique learning target-based grading system.
- Used JavaScript, MongoDB, Linux and software engineering practices.
- Streamlined experience for both professors and students, saving dozens of hours each week.

Software Engineer – General Motors Financial | *Internship*. Summer 2023
- Contributed to the development of innovative solutions for General Motors Financial.
- Focused on the creation of internal credit inquiry applications.
- Developed new reporting processes using C# and SQL.
- Demonstrated leadership within my team by facilitating daily SCRUM standups and ceremonies.

Research Assistant – UTRGV | *Volunteer*. 2022-2024
- Dedicated research efforts to the Algorithmic Self-Assembly Research (ASARG) Lab
- Participating in research on Tile Automata (TA) and Chemical Reaction Network models (CRNs).
- Investigating problems in the theory of computer science, computability and software modeling.
- Given responsibility as the primary maintainer of the software for our TA model using Python.

Research Apprentice – TCU | *Volunteer*. 2019-2023
- Engaged in the development of C++/Cuda models to simulate the spread of the Influenza virus within cellular tissue.
- Used Python, numpy and matplotlib to process and analyze large amounts of simulation data.
- Presented research findings at the 2021 SIAM Conference on Computational Science and Engineering, by invitation to the NSF Inaugural Equity in Engineering Summit.
- Published findings in the peer-reviewed Journal of Theoretical Biology as first author.

Full Stack Web Developer | *Paid*. Summer 2022
- Web development and design for various clients, utilizing MongoDB, Express, Node.JS, and Bootstrap.
- Back-end development, API and database configuration and front-end design.

PUBLICATIONS

Effect of cellular regeneration and viral transmission mode on viral spread. | Feb 7, 2023
- Journal of Theoretical Biology
- *Asher Haun*, Baylor Fain, Hana Dobrovolny
- https://doi.org/10.1016/j.jtbi.2022.111370
- Primary author, methodology, analysis and code development.
- Associated with Texas Christian University role as a Research Apprenctice

Intrinsic Universality in Seeded Active Tile Self-Assembly
- In review for Symposium on Discrete Algorithms (SODA)
- Tim Gomez, Elise Grizzell, *Asher Haun*, Ryan Knobel, Tom Peters, Robert Schweller, Tim Wylie
- https://doi.org/10.48550/arXiv.2407.11545
- Author, editing, code development, Figures
- Associated with The University of Texas Rio Grande Valley as a Research Assistant

RELEVANT COURSEWORK

Software Engineering I
- Learned best practices for software engineering including SCRUM and Test Driven Development.
- Used Ruby on Rails in team projects to solve realistic problems in a software engineering environment.

Data Structures and Algorithms
- Designing algorithms using complex data-structures to solve problems using C++
- Analyzing and proving big-O complexity

Discrete Math and Automata
- Gained proficiency in graph theory, combinatorics, and formal language theory.
- Analyzed and proved big-O complexity of algorithms.

Digital Systems Engineering (with lab)
- Designed digital circuits using methods including Shannon's Expansion and K-Maps.
- Gained hands-on experience in building digital circuits.

Computer Architecture
- Studied the design and layout of computer systems including the CPU, GPU, RAM and communication protocols.

Computer Organization and Assembly
- Studied the architecture and organization of computer systems at the machine code level.
- Wrote assembly programs by hand and gained experience with binary and hexadecimal number systems.

Java Object Oriented Programming
- Studied Object Oriented Programming using Java.
- Developed a multiplayer chess app as part of a team project—utilizing socket programming and computer graphics.