Abraham Leininger

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EDUCATION

Indiana University, Bloomington – *Bachelor of Science in Computer Science*. **Grad:** May 2024
Major: Computer Science. **Minors:** Mathematics, Statistics. **Cumulative GPA:** 3.9/4.0
Awards: CSCI Student Scholarship, Hutton Honor College Member, Deans List.
Relevant Coursework: Data Structures, Algorithms, OOP, Linear Algebra, Statistical Inference.

WORK EXPERIENCE

Vehicle Autonomy and Intelligence Lab (VAIL) – *Undergraduate Researcher*
May 2022 – Present. Bloomington, IN

- Implemented algorithms for planning used by autonomous robots using ROS, Python, and C++.
- Utilized the Gazebo simulator to test algorithms and controllers on Jackal and Turtlebot3 robots.
- Coordinated and met weekly with a Ph.D. mentor to learn and build projects in the robotics field.

Indiana University – *Undergraduate Instructor for Introduction to Computer Science (CSCI-C211)*
August 2022 – Present. Bloomington, IN

- Led weekly lab sections of 30 students and taught foundational computer science concepts in the Racket programming language, like recursion, functional programming, and abstraction.
- Hosted one-on-one office hours to assist student in learning concepts in computer science.

French Lick Resort – *Digital Marketing Intern*
May 2021 – August 2022. French Lick, IN

- Organized the creation and deployment of monthly promotional Eblast/newsletters using HTML and CSS in collaboration with graphic designers and members of the marketing team.
- Managed routine updates to the activities and events pages on frenchlick.com using HTML and CSS in coordination with the hotel and golf course event managers.

PROJECTS

Human Benchmark Clone (Next.js, React.js, TypeScript, Chakra.ui)
September 2022 – Present.

- Implemented the user interface and brain games from the website humanbenchmark.com utilizing frontend development frameworks such as React.js, Next.js, and TypeScript.
- Currently adding backend functionality to handle user authentication and store user-generated data.

Probabilistic Roadmap Planning Algorithm (ROS, Python, C++, Turtlebot3, Gazebo, Rviz, Linux)
July 2022 – August 2022.

- Implemented the probabilistic roadmap algorithm in ROS and Python to plan a path in a known environment using a random sampling of points.
- Programmed a controller in Python using differential drive and simulated the Turtlebot3 robot following the path in the Gazebo simulator.

Person Website (abeleininger.vercel.app) (Next.js, React.js, JavaScript, Chakra.ui, Framer Motion)
August 2022.

- Developed and deployed a personal website on Vercel to host my projects and resume.

TECHNICAL SKILLS

Programming Languages: Python, JavaScript, C/C++, Java, R, Racket.
Software: Linux, Git, ROS, Vim, Visual Studio Code, IntelliJ.