

# William Valentine

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**Objective:** Seeking research experience in the field of Computer Science.

**Education:** **Bachelor of Science, Computer Science** **May 2027**  
Rose-Hulman Institute of Technology, Terre Haute, IN  
Minors: Robotics, Cognitive Science, Mathematics, Imaging

*Relevant courses: Data Structures, Linear Algebra, Combinatorics, Computer Architecture, Programming Language Concepts, Web Programming, Differential Equations, Theory of Computation, Operating Systems, Computer Vision, Analysis of Algorithms, Machine Learning*

High School Dual Program with Houghton University, Houghton, NY **July 2023**  
*Relevant courses: Programming I, Programming II, Web Frameworks*

**Skills:** Programming Languages: JavaScript, Python, Java, C, Assembly, RISC-V, Scheme  
Systems: Windows, Macintosh, Linux

**Research:** **University of Nevada, Reno, Reno, Nevada** **Summer 2024 - Present**  
REU Site: Collaborative Human-Robot Interaction for Robots in the Field

- Worked alongside Dr. David Feil-Seifer and Dr. Emily Hand to create one of the first systems for the detection human comfort and discomfort
- Published in ISVC2024 (first author), second paper under review at Machine Visions and Applications (first author)

**Rose-Hulman Institute of Technology, Terre Haute, IN** **Fall 2024 - Present**  
Resolution of command ambiguity using LLMs for robots

- Worked alongside Dr. Michael Wollowski to introduce a system and benchmark for resolving confusing parts of commands given to robots using images
- Work was accepted at AHFE2025 (first author)

LiDAR Point Cloud Alignment Using Hand Crafted Feature **Fall 2023 - Present**

- Worked alongside Dr. Lixing Song to address alignment issues caused by learning based point cloud alignment methods
- Work was accepted to ICDCS2024 (second author)

**Houghton University, Houghton, NY** **Summer 2023**  
Intersection Traffic Automation for Vehicle

- Created a physical, working model of a server-controlled autonomous intersection

Controller-free video games **Spring 2023**

- Created a demo of Tic-Tac-Toe that did not require any controllers or keyboards
- Explored other examples of controller-free video games

<b>Experience:</b>	<b>Grader and TA, CSSE Department, RHIT</b>	<b>Spring 2023 - Present</b>
	<ul style="list-style-type: none"> <li>• Graded for Intro to Software Development, Web Development, Programming Language Concepts, and Data Structures and Algorithms</li> <li>• Created and designed an automatic grading system utilizing Python</li> </ul>	
	<b>Managing Partner, Tamriel Savings Co.</b>	<b>August 2020 – August 2023</b>
	<ul style="list-style-type: none"> <li>• Created an image scanning system that recorded text from images 138% faster than leading commercial services with over 98% accuracy</li> <li>• Grew the user base to 2-3K users daily</li> <li>• Created a Discord bot that is on over 1,000 servers</li> </ul>	
<b>Projects:</b>	<b>RISC-V Processor</b>	<b>Spring 2024</b>
	<ul style="list-style-type: none"> <li>• Created a processor with support for Euclid's algorithm using a memory-to-memory architecture</li> <li>• Implemented using Verilog and tested using ModelSim</li> </ul>	
	<b>Scheme Interpreter</b>	<b>Winter 2023</b>
	<ul style="list-style-type: none"> <li>• Created an interpreter for running a scheme-like syntax using scheme</li> <li>• Language had local and global variable support along with support for functional programming styles</li> </ul>	
<b>Publications:</b>		
	<p><b>Valentine, W.</b>, and Wollowski, M. (2025). <i>Assessment of the Capabilities of Multimodal Large Language Models in Locating and Resolving Ambiguities during Human-Robot Teaming</i>, AHFE2025</p>	
	<p><b>Valentine, W.</b>, Webb, M., Collum, C., Feil-Seifer D., and Hand, E., (2024). <i>HCC: An explainable framework for classifying discomfort from video</i>, ISVC2024</p>	
	<p>Song, L., <b>Valentine, W.</b>, Yang Q., Wang H., Fang H., and Liu, Ye., (2024). <i>BB-Align: A Lightweight Pose Recovery Framework for Vehicle-to-Vehicle Cooperative Perception</i>, ICDCS2024</p>	
<b>Honors:</b>	<b>Rose-Hulman Institute of Technology, Terre Haute, IN</b>	
	<p>Rose Research Fellows</p> <ul style="list-style-type: none"> <li>• Chosen for selective research experience for developing research skills and equipping students for futures in academics and research</li> </ul>	
	<p>Nominated for CSSE TA of the year</p>	
	<p>Houghton University, Houghton, NY</p>	
	<p>London Honors Program</p> <ul style="list-style-type: none"> <li>• Highly competitive program for undergraduate students to study the humanities and art in London for a semester</li> </ul>	
	<p>Outstanding Computer Science Research 2023</p>	
<b>Grants:</b>	<p>National Science Foundation, Alexandria, Virginia, Conference Travel Award \$500</p>	<b>Summer 2024</b>
	<p>Rose-Hulman Institute of Technology, Terre Haute, Rose Research Fellows \$500, \$1000 IN IP/ROP 2024 \$500 CSSE Departmental \$2000, \$1000</p>	<b>Fall 2024, Spring 2025</b>
		<b>Spring 2024</b>
		<b>Spring 2024, Spring 2025</b>