

William Valentine

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Education: **Bachelor of Science, Computer Science** **May 2027**

Rose-Hulman Institute of Technology, Terre Haute, IN

Minors: Cognitive Science, Mathematics, Imaging

Relevant courses: Human-Robot Interaction, Cognitive Psychology, Computer Vision, Deep Learning, Machine Learning, Linear Algebra, Artificial Intelligence, Deep Reinforcement Learning, Probability with Applications in Statistics

Skills: Programming Languages: JavaScript, Python, Java, C, Assembly, Scheme
Systems: Windows, Macintosh, Linux

Research: **Indiana University, Bloomington, IN** **Summer 2025 - Present**

Research Intern

- Worked alongside Dr. David Crandall and Dr. Selma Šabanović to create novel social robots (QTrobot, Baxter) for interacting with older adults
- Analyzed large-scale user studies with cross-cultural groups of older adults

University of Nevada, Reno, Reno, NV **Summer 2024 - Winter 24**

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 of human comfort and discomfort
- Used deep-learning powered pose estimation, valence and arousal, audio transcription, and textual sentiment analysis to model human behavior

Rose-Hulman Institute of Technology, Terre Haute, IN

Behavior Analysis for Adaptive Robotic Behavior

Winter 25 - Present

- Worked alongside Dr. Michael Wollowski to explore how real-time video-based behavior analysis could be used to create robots with adaptive behavior

Resolution of command ambiguity using LLMs for robots

Fall 2024 - Fall 25

- Worked alongside Dr. Michael Wollowski to introduce a system and benchmark for resolving confusing parts of commands given to robots using images

LiDAR Point Cloud Alignment Using Log-Gabor Filters

Fall 23 - Summer 24

- Worked alongside Dr. Lixing Song to address alignment issues caused by learning based point cloud alignment methods for self-driving vehicles
- Successfully created an algorithm for aligning point clouds in complex, uncertain environments

Vanderbilt University, Nashville, Tennessee

Summer 2025

VORTEX (Vanderbilt Online Research Training and Exploration) Member

- Invited to join the first cohort of a summer program focusing on research ethics and research writing

Publications Under Review or Revision: (conferences obscured for blind review):

Valentine, W., Kamino, W., Hsu, L., Sabanovic, S., Crandall, D., & Khoo, W. (2026). *Novel approach to in-the-wild audio-visual datasets for emotion recognition, Computer Vision Conference.*

Valentine, W., Wang, Y., Kamino, W., Sato, H., Swaminathan, M., Noguchi, A., Ramirez, F., Hirata, Y., Oh, J., Nagata, S., Tsui, K., Hsu, L., Sabanovic, S., Crandall, D., & Khoo, W. (2026). *Large-scale cross-cultural user study of social robots interacting with older adults, Robotics Journal.*

Publications:

Valentine, W., Šabanović, S., Crandall, D., & Khoo, W. (2026). *BehaviorKit: A Multi-modal Real-time Behavior Analysis Library for Robots, HRI 2026 (Short paper, Acceptance Rate: 38%)*

Valentine, W., Wollowski, M. (2025). *Assessment of the capabilities of multimodal large language models in locating and resolving ambiguities during human-robot teaming. AHFE 2025.*

Valentine, W., Webb, M., Collum, C., Feil-Seifer, D., & Hand, E. (2024). *HCC: An explainable framework for classifying discomfort from video. ISVC 2024 (Oral: 45.1%).*

Valentine, W., Šabanović, S., Crandall, D., & Khoo, W. (2026). *From Long-Term HRI to Dementia Care: Scoping Personalization Approaches, HRI 2026 Workshop: LEAP-HRI*

Song, L., **Valentine, W.**, Yang, Q., Wang, H., Fang, H., & Liu, Y. (2024). *BB-Align: A lightweight pose recovery framework for vehicle-to-vehicle cooperative perception. ICDCS 2024 (21.9%).*

Connor B., **Valentine, W.**, Hsu, L., Kamino, W., Šabanović, S., Crandall, D., & Khoo, W. (2026). *Ghost in the Machine: Exploring Designed Fear in HRI, HRI 2026 LBR*

Khoo, W., Hsu, L., **Valentine, W.**, Connor, B., Nil, T., Khoo, A., Kamino, W., Šabanović, S., Crandall, D. (2026), *Meet IRIS: An Interactive Robotic Experience for Exploring Life Purpose, HRI 2026 Demo*

Experience: **Grader and TA, CSSE Department, RHIT** **Spring 2024 - Present**

- Graded for Intro to Software Development, Web Development, Programming Language Concepts, Data Structures and Algorithms, and Mechatronics
- Head TA for Programming Language Concepts: Winter 2024, 2025
- Created and designed an automatic grading system utilizing Python

Service:

HRI Main Track 2026 [3 reviews]
HRI Short Papers Track 2026 [1 review]
HRI Late-Breaking Report Track 2026 [3 reviews]
CHI Late-Breaking Work Track 2026 [3 reviews]
AAAI: AI Magazine [2 reviews]
AAAI: AIES SP 2025 [2 reviews]
ICDCS Student Volunteer

Honors and Roles:

Rose-Hulman Institute of Technology, Terre Haute, IN
Rose Research Fellow and Mentor, Nominated for CSSE TA of the year
CSSE Student Advisory Board Member
Academic Computing Implementation Committee (Student Rep)

Goldwater Scholar 2025-2026

HRI2026: Special Recognition for Outstanding Reviews

Grants:

National Science Foundation, Alexandria, Virginia

- Conference Travel Award \$500

Summer 2024

Rose-Hulman Institute of Technology, Terre Haute,

- Rose Research Fellows \$500, \$1000
- IN IP/ROP 2024 \$500
- CSSE Departmental \$2000, \$1000

Fall 2024, Spring 2025

Spring 2024

Spring 2024, 2025