Patrick Naughton

UIUC Computer Science Ph.D. Student
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Education

08/20-08/25 **University of Illinois at Urbana-Champaign** **Champaign, IL**
Ph.D. in Computer Science
Advisor: Kris Hauser
Thesis: Learning Effective Mappings for Teleoperated Manipulation

08/17-05/20 **Washington University in St. Louis** **St. Louis, MO**
B.S. Electrical Engineering, Second Major in Computer Science
GPA: 4.0/4.0

Journal and Conference Publications

1. **P. Naughton,** J. Cui, K. Patel, and S. Iba, "ResPilot: Teleoperated Finger Gaiting via Gaussian Process Residual Learning," in 8th Annual Conference on Robot Learning, 2024.
2. **P. Naughton***, J. S. Nam*, A. Stratton, and K. Hauser, "Integrating Open-World Shared Control in Immersive Avatars," in 2024 IEEE International Conference on Robotics and Automation (ICRA), Yokohama, Japan: IEEE, May 2024, pp. 17807–17813. doi: 10.1109/ICRA57147.2024.10611618.
3. **P. Naughton***, J.M.C. Marques*, JC. Peng*, Y. Zhu*, J.S. Nam, Q. Kong, X. Zhang, A. Penmetcha, R. Ji, N. Fu, V. Ravibaskar, R. Yan, N. Malhotra, and K. Hauser, "Immersive Commodity Telepresence with the TRINA Robot Avatar," in the International Journal of Social Robotics, Special Issue on Robot Avatars for Telepresence and Social Interaction, January 2024, doi: 10.1007/s12369-023-01090-1.
4. K. Hauser, E. Watson, J. Bae, J. Bankston, S. Behnke, B. Borgia, M.G. Catalano, S. Dafarra, J.B.F. van Erp, T. Ferris, J. Fishel, G. Hoffman, S. Ivaldi, F. Kanehiro, A. Kheddar, G. Lannuzel, J.F. Morie, **P. Naughton**, S. Nguyen, P. Oh, T. Padir, J. Pippine, J. Park, D. Pucci, J. Vaz, P. Whitney, P. Wu, and D. Locke, "Analysis and Perspectives on the ANA Avatar XPRIZE Competition," in the International Journal of Social Robotics, Special Issue on Robot Avatars for Telepresence and Social Interaction, January 2024, https://doi.org/10.1007/s12369-023-01095-w.

5. **P. Naughton** and K. Hauser, “Structured Action Prediction for Teleoperation in Open Worlds,” IEEE Robot. Autom. Lett., vol. 7, no. 2, pp. 3099–3105, Apr. 2022, doi: 10.1109/LRA.2022.3145953.

Refereed Workshop Publications

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1. **P. Naughton**, J.S. Nam, J.M.C. Marques, JC. Peng, Y. Zhu, Q. Kong, and K. Hauser, “Pan-Tilt-Roll Televisualization With Adjustable Baseline Stereo,” in ICRA 2023, 2nd Workshop Toward Robot Avatars, June 2023.
2. J.M.C. Marques, JC. Peng, **P. Naughton**, Y. Zhu, J.S. Nam, and K. Hauser, “Commodity Telepresence with Team AVATRINA’s Nursebot in the ANA Avatar XPRIZE Finals,” in ICRA 2023, 2nd Workshop Toward Robot Avatars, June 2023.
3. **P. Naughton***, J.M.C. Marques*, Y. Zhu*, N. Malhotra, and K. Hauser, “Commodity Telepresence with the AvaTRINA Nursebot in the ANA Avatar XPRIZE Semifinals,” in RSS 2022, Toward Robot Avatars: Perspectives on the ANA Avatar XPRIZE Competition, July 2022.
4. A. Boloor, T. Wu, **P. Naughton**, A. Chakrabarti, X. Zhang, Y. Vorobeychik, “Can Optical Trojans Assist Adversarial Perturbations?” in ICCV 2021, Workshop on Adversarial Robustness in the Real World, October 2021.

Honors and Awards

- ANA Avatar XPrize Finals, 4th Place, Team AVATRINA, 2022
- ANA Avatar XPrize Semifinals, 6th Place, Team AVATRINA, 2021
- Chirag Foundation Graduate Fellowship in Computer Science, 2021
- NSF GRFP Honorable Mention, 2020
- Washington University in St. Louis McKelvey School of Engineering Valedictorian, 2020

Presentations

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1. Poster presentation, *ResPilot: Teleoperated Finger Gaiting via Gaussian Process Residual Learning*. 8th Annual Conference on Robot Learning. November 8, 2024.
2. Oral presentation, *Learning Effective Mappings for Teleoperated Manipulation.* NASA Ames Intelligent Robotics Group Invited Talk. October 21, 2024.
3. Oral presentation, *Integrating Open-World Shared Control in Immersive Avatars.* International Conference on Robotics and Automation. Yokohama, Japan. May 16, 2024.
4. Demo presentation, *Integrating Open-World Shared Control in Immersive Avatars.* IMMERSE Symposium. Champaign, Illinois. February 7, 2024.

5. Oral presentation, *Pan-Tilt-Roll Televisualization With Adjustable Baseline Stereo*. ICRA 2023, 2nd Workshop Toward Robot Avatars. London, UK. June 2, 2023.
6. Oral presentation, *Structured Action Prediction for Teleoperation in Open Worlds.* International Conference on Robotics and Automation. Philadelphia, Pennsylvania. May 26, 2022.
7. Poster presentation, *Learning to Fail: Failure Plans and Predictions for Crowd Navigation.* Robotics Institute Summer Scholar Symposium. Carnegie Mellon University, Robotics Institute. August 15, 2019.
8. Poster presentation, *Underground Robotics: Autonomous Navigation.* UROP Symposium. RWTH Aachen University. July 18, 2018.

Positions Held

08/20-	Research Assistant. Computer Science Department, University of Illinois at Urbana-Champaign.
02/24-06/24	Research Intern. Honda Research Institute, San Jose CA.
01/23-05/23	Teaching Assistant, Numerical Analysis (CS450). Computer Science Department, University of Illinois at Urbana-Champaign.
05/20-08/20	Research Assistant. Electrical and Systems Engineering Department, Washington University in St. Louis.
08/19-05/20	Introductory Circuits Teaching Assistant. Electrical and Systems Engineering Department, Washington University in St. Louis.
08/18-05/20	IEEE Student Chapter President. Washington University in St. Louis.
09/17-09/19	Student Web Developer. Washington University in St. Louis.
06/19-08/19	Robotics Institute Summer Scholar. Robotics Institute, Carnegie Mellon University.
05/18-07/18	RWTH UROP Research Assistant. Institute for Advanced Mining Technologies, RWTH Aachen University.
01/18-05/18	Undergraduate Research Assistant. Electrical and Systems Engineering Department, Washington University in St. Louis.
01/18-05/18	Engineering Intern. Dynamic Surgical, St. Louis, MO.

Mentorship

- Hyoungju Lim (UIUC Physics BS)
- Andrew Stratton (UIUC CS BS). Now at University of Michigan
- Vignesh Ravibaskar (UIUC CS BS). Now at UChicago
- Jing-Chen Peng (UIUC ME/CS BS). Now at Georgia Tech

Service

- Reviewer for Transactions on Human-Robot Interaction (2024)
- Reviewer for Robotics and Automation Letters (2024)
- Reviewer for Robotics: Science and Systems (2022)