

Taylor Pool

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Education

- May 2022 - **Master of Science: Robotics**
May 2024 *Carnegie Mellon University*, Pittsburgh, PA.
Aug 2016 - **Bachelor of Science: Applied Mathematics**
Sep 2022 *Brigham Young University*, Provo, UT, *Summa Cum Laude*.

Experience

- May 2023 - **Robotacist: Full Stack**
Present *Aquatonomy*, Pittsburgh, PA.
○ Produced millimeter-accurate models of underwater structures via stereo vision and IMU data
○ Logged and visualized multimodel sensor information for safe operation of robot
- May 2022 - **AI Graduate Researcher: Robot Perception Laboratory**
Present *Carnegie Mellon University*, Pittsburgh, PA.
○ Supervised state-of-the-art fusion of IMU, LIDAR, and GPS for DARPA RACER competition
○ Increased robustness of robot state estimation in degraded environments by 50%
- May 2021 - **AI Intern: Trajectory Management and Controls Team**
Aug 2021 *Shield AI*, San Diego, CA.
○ Boosted speed and stability of Nova 2 flight by implementing on-manifold geometric controller
○ Eliminated tracking errors over high-speed trajectories via online system-identification
- May 2020 - **Engineering Intern: Unmanned Aerial Vehicle Group**
Aug 2020 *Lawrence Livermore National Laboratory*, Livermore, CA.
○ Saved division \$20,000/year by constructing inexpensive RTK-GPS ground truth system
○ Enabled future missions by implementing collision avoidance technology within simulation
- Aug 2019 - **Researcher: Multiple Agent Intelligent Coordination and Control Laboratory**
May 2022 *Brigham Young University*, Provo, UT.
○ Developed dynamic models of eVTOL aircraft for simulation within Unreal Engine workflow

Skills

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|--------------------|----------------------------|
| ○ State Estimation | ○ Control Theory |
| ○ Linear Algebra | ○ Optimization |
| ○ Lie Theory | ○ Collision Avoidance |
| ○ Computer Vision | ○ Model Predictive Control |
| ○ ISO C++ | ○ Python |
| ○ ROS | ○ POSIX Sockets |

Publications

- [1] S. Harding, Q. Leishman, W. Lunceford, D. J. Passey, T. Pool, and B. Webb. “Global forecasts in reservoir computers”. In: *Chaos: An Interdisciplinary Journal of Nonlinear Science* 34.2 (Feb. 2024), p. 023136. ISSN: 1054-1500. DOI: 10.1063/5.0181694. URL: <https://doi.org/10.1063/5.0181694>.