Derek Benham

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EDUCATION

Brigham Young University Apr 2026
Ph.D. Candidate: Electrical Engineering, Emphasis in Robotic Perception & Localization   Provo, UT
- Awarded the SMART Scholarship (declined)
- Relevant Coursework: Non-Linear Optimization, Robotic Localization (SLAM), Computer Vision, Artificial Intelligence/Game Theory, Stochastic Processes, Cuda / HPC programming

Brigham Young University Apr 2021
Bachelor of Science: Computer Engineering   Provo, UT
Minor in Computer Science
- GPA 3.61
- Relevant Coursework: Embedded programming, Machine Learning, Computer Networking

RELEVANT EXPERIENCE

Field Robotics and Systems Lab | Dr. Joshua G. Mangelson, BYU Aug 2021-Present
Doctoral Research Assistant Provo, UT
- Researching Invariant EKF and continuous time state estimation of Autonomous surface vessel (ASV)
- Manage team of 6 students to construct low-cost autonomous underwater vehicle
- Co-created *Intro to Robotic Autonomy* course to teach basics of odometry, CV, estimation and ROS
- Deployed retrofit ASV for inspection in Hawaii, enabling exploration of 12,500 meters of coral reef
- Configured WAMV-8 for semantic mapping of shorelines requiring custom sonar and camera drivers

Senior Capstone, BYU Sep 2020-Apr 2021
Project Engineer, Co-Autonomy Lead Provo, UT
- Worked with 7-member team to retrofit Boston Dynamics' Spot robot for data center surveillance
- Led network administration, collaborating with manufacturer for first-ever WPA2 connection
- Developed system for Spot to cycle through preplanned missions to ensure site coverage
- Solved critical piece of facial recognition project, decreasing false negatives by 50%

Computer Science Department | Dr. Chris Archibald, BYU Jun 2020-Apr 2021
Undergrad Research Assistant Provo, UT
- Researched AI game theory and natural language processing under supervising professor
- Designed adaptive AI to play board game Codenames with word embeddings

ANR Group Inc (DOE Subcontractor) May 2018-Aug 2018, May 2019-Aug 2019
Software Engineering Intern Richland, WA
- Co-authored custom training document for end users
- Worked with 6-man team to migrate over 1,000 SharePoint On-prem sites to Microsoft Online
- Automated SharePoint site utilization reporting with Excel VBA, reducing manual effort by 99% (from 333 hours to 5 hours)
- Automated COTS billing software, streamlining financial reporting process and improving data accuracy

Retail Tech Support, BYU Sep 2017-Aug 2021
Computing Specialist Provo, UT
- Installed and maintained point-of-sale (POS) systems for over 25 BYU retail establishments
- Delivered hands-on IT computer support for BYU's retail management system, ensuring system uptime

AWARDS and INTERESTS

- IEEE/ OES Oceans Student Poster Competition 2021, 3rd place
- Coached First Lego League Robotics team to Washington State regional competition
- Hands-on learner and builder with experience in at home auto mechanics including internal engine repair