Zixu Zhang

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EDUCATION

University of Michigan Ann Arbor, MI
Master of Science in Robotics Aug 2018-May 2020 (expected)

University of Illinois at Urbana – Champaign Urbana, IL
Bachelor of Science in Mechanical Engineering with Highest Honors Aug 2014-May 2018
- Electrical Engineering Minor   • Computer Science Minor GPA 3.94/4.0

WORK EXPERIENCE

University of Illinois at Urbana – Champaign Urbana, IL
Course Assistant for Introductory Solid Mechanics (TAM 251) Aug 2015-May 2018
- Led collaborative discussion sections for around 60 students overall
- Instructed students' questions in office hours and online forum Piazza
- Collaborated to develop problem sets and detailed solutions for online assignments and quizzes
- Assisted in the improvement of the syllabus and course structure

Grader for Introduction to Electric and Electronic Circuits (ECE205) Jan 2015-Dec 2015
- Prepared solutions and graded course assignments and exams
- Assisted in proctoring exams and quizzes

Northern Engraving Corporation Sparta, WI
Engineering Intern for Continuous Improvement June 2016-Aug 2016
- Led and Conducted DOE analysis for sheet metal preparation scrap factors
- Evaluated the current state and root causes of defects for Tesla Door Trims lines
- Revised standard work procedures, trained operators and improved yield and line rate by 40%
- Coordinated engineers with production floor to implement 5S and lean manufacture in production

ACADEMIC EXPERIENCE

University of Illinois at Urbana – Champaign Urbana, IL
Bretl Research Group Feb 2017-Aug 2018
- Developed ROS-integrated autonomous ground robot and its GAZBO simulation
- Cooperated to implement efficient methods for robot frontier exploration and object detection with occupancy grid mapping
- Developed algorithms for real-time predictive model of feature point association in Visual Simultaneous Localization and Mapping (VSLAM) with data-driven approach
- Aided the development of online real-time path planning framework with feature constraints for reliable VSLAM-based indoor navigation for autonomous ground robots

Renewable Energy & Turbulent Environment Group May 2015-Aug 2017
- Aided research on transition to turbulence over 2D and 3D periodic large-scale wavy-wall
- Interpreted and analyzed experimental results for transition to turbulence over periodic roughness
- Conducted experiments on turbulent boundary layer over and within complex media

PUBLICATION

1. X. Deng, *Z. Zhang*, A. Sintov, J. Huang, and T. Bretl, "Feature-constrained Active Visual SLAM for Mobile Robot Navigation," To appear in the proceedings of the *IEEE International Conference on Robotics and Automation,* May 2018, Brisbane, Australia (acceptance rate 40.6%).
2. A.M. Hamed, A. Pagan-Vazquez, D. Khovalyg, *Z. Zhang*, and L. P. Chamorro, "Vortical structures in the near-wake of tabs with various geometries," *Journal of Fluid Mechanic*, vol. 825, July 2017.
3. A.M. Hamed, M. Sadowski, *Z. Zhang*, and L. P. Chamorro, "Transition to turbulence over 2D and 3D periodic large-scale roughnesses," *Journal of Fluid Mechanics*, vol. 804, Oct. 2016.

RELEVANT SKILLS

ANSYS, Cero Parametric, C, C++, CUDA, GAZEBO, LabVIEW, LaTeX, MATLAB, Python, ROS, Simulink, SolidWorks

HONORS AND ACTIVITIES

- T.A. Peebles Award, 2017   • James Scholar Honor Student, 2014-2018   • Department of Mechanical Science and Engineering Grant for Undergraduate Research, 2015