Dr. Wyatt McAllister

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RESEARCH INTEREST

I'm passionate about distributed autonomous systems engineering and I'm excited to chat with teams working on intelligent consumer infrastructure.

EDUCATION

UNIVERSITY OF ILLINOIS| URBANA-CHAMPAIGN, IL | August 2018 - May 2020
Ph.D. in Electrical and Computer Engineering, Distributed Autonomous Systems Lab
Advised by Dr. Girish Chowdhary
Department of Electrical and Computer Engineering (ECE)
Cur. Cum. GPA: 4.0 / 4.0

UNIVERSITY OF ILLINOIS| URBANA-CHAMPAIGN, IL | August 2016 - May 2018
MS in Electrical and Computer Engineering
Advised by Dr. Girish Chowdhary
Department of Electrical and Computer Engineering (ECE)
Cum. GPA: 4.0 / 4.0

UNIVERSITY OF ILLINOIS | URBANA-CHAMPAIGN, IL | August 2014 - May 2016
BS in Electrical and Computer Engineering, Highest Honors
Department of Electrical and Computer Engineering (ECE)
Cum. GPA: 3.92 / 4.0

SKILLS

SOFTWARE
C++ • C • Java • MatLab • Python • LaTeX Mathematica • Photoshop • HTML • CSS

HARDWARE
ROS • Open CV • PHP • Eagle CAD PCB

LANGUAGE
Spanish - Full Professional Proficiency

PROFESSIONAL EXPERIENCE

MICROSOFT SURFACE HUB | HARDWARE INTERN | PORTLAND, OR | May – August 2015
- Used capabilities studies to improve accuracy of vision system used in the manufacturing process
- Designed a custom testing fixture for the incoming quality control of power supplies

VIEW RAY INCORPORATED | HARDWARE INTERN | OAKWOOD VILLAGE, OH | May - August 2014
- Worked on a system for MRI targeted radiation therapy to prevent the irradiation of healthy tissues
- Created a fiber optic cable testing box to efficiently measure data flow in the system

RESEARCH

DISTRIBUTED AUTONOMOUS SYSTEMS LAB | CHAMPAIGN-URBANA, IL | May 2017 – Present
- Designed a multi-agent planning algorithm for robotic weed killing, with an associated simulation framework including a realistic weed growth model
- Incorporated a real-time weed growth prediction strategy using Evolving Gaussian Processes (E-GP), enabling proactive planning
- Oversaw experiments performing robotic weed counts in real agricultural fields

ADVANCED CONTROLS RESEARCH LAB | CHAMPAIGN-URBANA, IL | August 2016 – May 2017
- Created a ROS software interface for the Automation Supporting Prolonged Independent Residence for the Elderly (ASPIRE) program

AWARDS

2018	Shun Lien Chuang Memorial Award in ECE	Top 1/503
2016	Highest Honors	GPA >3.8/4.0
2016	John Bardeen Award in ECE	Top 1/2500
2014-2016	Dean's List	Top 20th Percentile

SOCIETIES

2016	Tau Beta Pi Engineering Honor Society	Top 12the Percentile
2015	Etta Kappa Nu IEEE Honor Society	Top 25th Percentile

TEACHING

UNIVERSITY OF ILLINOIS | CHAMPAIGN-URBANA, IL | August 2016 - May 2018

- Spring 2018: Fields and Waves I (ECE329) with Dr. Lynford Goddard
- Fall 2017: Principles of Experimental Research (ECE446) with Dr. Lynford Goddard
- Fall 2016: Digital Signal Processing (ECE310) with Drs. Yoram Bresler and Stephen Levinson

PUBLICATIONS

[1] W. McAllister, D. Osipychev, G. Chowdhary, and A. Davis. Multi-agent planning for coordinated robotic weed killing. In *Intelligent Robots and Systems (IROS), 2018 IEEE/RSJ International Conference on*. IEEE, 2018.

[2] W. McAllister, D. Osipychev, G. Chowdhary, and A. Davis. Agbots: Weeding a field with a team of autonomous robots. *Computers and Electronics in Agriculture*, 163:104827, 2019.

[3] W. McAllister, J. Whitman, A. Axelrod, J. Varghese, A. Davis, and G. Chowdhary. Agbots 2.0: Weeding denser fields with fewer robots. *Robotics: Science and Systems Foundation*, 2020.