

# Gerry Chen

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## Education

### Georgia Institute of Technology, PhD

08/2019 to Present

School of Interactive Computing

- Robotics PhD under Dr. Frank Dellaert
- Factor graphs for kinodynamic motion planning

### Duke University, BSE

08/2015 to 05/2019

Pratt School of Engineering

- Electrical and Computer Engineering + Mechanical Engineering; Minors in Computer Science, Math
- 3.87/4.00 cumulative GPA, Dean's List every semester

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## Skills

- Strong command of Matlab and Python
- Path Planning + Classical Controls
- Proficiency in C++, Java, MATHEMATICA, L<sup>A</sup>T<sub>E</sub>X
- Eagle, SPICE, Solidworks, Autodesk Fusion
- Embedded Software Development
- Experimental design and sensor data acquisition

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## Activities

### PhD Researcher

08/2019 to Present

Robotics with Frank Dellaert

- Cable driven parallel robot (CDPR) design and control for painting graffiti

### Co-President

08/2015 to 07/2019

Duke Electric Vehicles Team - 2x Guinness World Record holder

- President 2018-19, world record for most efficient electric vehicle at 27,482 MPGe
- Lead hydrogen fuel cell hybrid vehicle 2017-18, world record for most fuel efficient vehicle at 14,573 MPGe
- Increased fuel cell efficiency from 40% to 63% and designed super-cap array to increase vehicle eff. by 22%
- Built autonomous path-following car based on RTK GPS, internal sensors, and path planning algorithms

### Project Lead

01/2016 to 01/2018

Solar Benches

- Lead technical, financial, and administrative aspects of augmenting existing campus benches with solar powered night-time task lighting and laptop/phone chargers to raise enthusiasm for clean energy
- Installed 2 test benches on campus after passing safety inspection on an off-site prototype bench

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## Work History

### Controls Engineer Intern

05/2018 to 08/2018

Deka R&D - Dirk Van Der Merwe

- Developed novel 2-wheel balancing control scheme with constrained wheel displacement (patent pending)
- Created multi-system integration over CAN, EtherCAT, RS232 to create hybrid wheeled/legged robot
- Developed stability control of robot w/ powered casters + differential steering to test high speed dynamics

### Robotics Motion Planning Intern

01/2017 to 05/2018

Intelligent Motion Laboratory - Dr. Kris Hauser

- Submitted joint paper to IEEE International Conference on Robotics and Automation 2018 (Accepted 01/12/2018) - work funded by NSF Research Experiences for Undergraduates (REU) to implement a Precision Positioning Unit (PPU) on the Tele-Robotic Intelligent Nursing Assistant (TRINA)
- Coded (Python, C++) and tested max. continuous range / min. manipulability arm configurations
- Fabricated polyurethane "finger" tip with integrated tactile sensor and 95.7% actuation success rate

### Teaching Assistant

08/2016 to Present

Georgia Institute of Technology

Duke University

### Tutor

05/2014 to 05/2019

Multiple Employers