

# Jack Doan

2800 Waterview Pkwy, Apt 6231  
Richardson, TX 75080

214-436-6105  
hello@jackdoan.com  
jackdoan.com

**Summary:** Computer Engineer with leadership experience and academic training at the University of Texas at Dallas. Proven skills in circuit design, research, and system integration, with a strong background in both embedded systems and electric motor control.

**Education:** The University of Texas at Dallas, B.S. Computer Engineering, May 2018 GPA: 3.1/4.0  
Coursework: Computer Architecture, Real Time Operating Systems, Signals & Systems

## Engineering Projects and Experience:

Student Researcher at the Locomotor Control Systems Laboratory April 2015 - Current

- Control Strategy Implementation:
  - Worked with PhD candidates to get their control strategies off of the whiteboard and into reality
  - Transformed scientific literature into precise, testable software requirements
  - Used Agile methodologies to develop software quickly, while ensuring the users needs were met
  - Documented code to allow non-programmers to understand and tweak it
  - Successfully tripled system performance by overhauling legacy code to meet modern standards
- Comet Exoskeleton:
  - The Comet Exoskeleton is a powered lower-leg orthotic device that helps its wearer walk
  - Designed to facilitate rehabilitation of stroke patients who need to learn to walk again
  - Capable of fully tracking the users gait cycle and applying the up to 40% body weight support
  - Implemented control laws, wrote device drivers and designed printed circuit boards
  - Operated the device & monitored sensor data for safety during human subject experiments

Electrical Team Leader for UTD Combat Robotics October 2014 - May 2017

- Designed, built and competed with UTDs flagship combat robot: The Blender
- Built with a titanium shell, 9000 Watts of electric motors, and four steel teeth spinning at over 100 mph
- Designed custom motor controllers, which save the team an average of \$200 per round of combat
- Led the team to a smashing success in 2015, with a 3rd place finish at the international RoboGames

## Publications:

- H. Zhu, **J. Doan**, C. Stence, G. Lv, T. Elery, R. Gregg, ‘Design and validation of a torque dense, highly backdrivable powered knee-ankle orthosis’ *IEEE Int. Conf. Robotics and Automation*, 2017.
- T. Elery, S. Rezazadeh, C. Nesler, **J. Doan**, H. Zhu, R. Gregg, ‘Design and benchtop validation of a powered knee-ankle prosthesis with high-torque, low-impedance actuators’ *Submitted: IEEE Int. Conf. Robotics and Automation*, 2018.

<b>Technical Skills</b>	C/C++	LabVIEW	DSP	Verilog	Embedded Systems
	KiCAD	Linux	Java	Python	Motor Control
	Altium	Git	RTOS	Battery Management	Communication Protocols
	AVR	ARM	MSP430	C2000	Use of Test Equipment

**Availability:** Full time: May 2018. US Citizen. Willing to relocate.