Jack Doan

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SUMMARY Computer Engineering Student 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 software development and electric motor control.

EDUCATION The University of Texas at Dallas, B.S. in Computer Engineering, May 2018 G.P.A. 3.15/4.0
Coursework: Computer Architecture, Software Engineering, Signals & Systems

ENGINEERING PROJECTS & EXPERIENCE

Comet Exoskeleton Locomotor Control Systems Laboratory April 2015 - Oct 2016

- 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 user's gait cycle and applying the up to 40% body weight support
- Implemented control laws, wrote device drivers and designed printed circuit boards
- Reduced actuator control PCB footprint by 50%, down to just 3 square inches
- Operated the device & monitored sensor data for safety during human subject experiments
- Paper: Design and Validation of a Torque Dense, Highly Backdrivable Powered Knee-Ankle Orthosis.
  H. Zhu, J. Doan, C. Stence, G. Lv, T. Elery, and R. Gregg. IEEE Int. Conf. Robotics & Automation, Singapore, 2017.

Control Strategy Implementation Locomotor Control Systems Laboratory Jan 2016 - Aug 2016

- Worked with PhD candidates to get their control strategies off of the whiteboard and into reality
- Built solutions with LabVIEW Real Time to run on a NI-RIO Linux platform
- Wrote and optimized API's for data acquisition & processing from on board sensors
- Successfully tripled system performance by overhauling legacy code to meet modern standards

The Blender UTD Combat Robotics October 2014 - Current

- Served as electrical team leader for design & construction of UTD's flagship combat robot: The Blender
- Built with a titanium shell, 9000 Watts of electric motors, and four steel teeth which spin at over 100 mph
- Designed custom motor controllers, which save the team an average of $200 per round of combat
- Developed safety procedures for handling batteries & power-on to protect operators and bystanders
- Led the team to a smashing success in 2015, with a 3rd place finish at the international RoboGames
- Currently leading the team towards competing in RoboGames 2017

MEMBERSHIPS UTD Combat Robotics, Electrical Lead, 2014 - Current - https://utdcombatrobotics.com
IEEE Student Tutor, Digital Circuits & Computer Architecture, 2016 – Current

TECHNICAL SKILLS

Altium	LabVIEW	Matlab	SPICE	Xilinx Vivado
C/C++	Java	Python	Verilog	Assembly
Linux	Git	Docker	ARM	Microsoft Office
Atmel AVR	TI MSP430	TI C2000	Soldering	Use of Test Equipment

QUALIFICATIONS 3rd Place Internationally at RoboGames 2015 with UTD Combat Robotics
Certified LabVIEW Associate Developer, National Instruments, 2016-2018

AVAILABILITY Internship: May 2016, Full time: May 2018. US Citizen.