

# Dylan Walker Brown

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## PROFESSIONAL EXPERIENCE

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- **Zoxx, Inc.** Remote / Foster City, CA  
*Firmware Engineer* October 2023 - Present
  - **Drive Systems team, from prototype to public roads:** Developed firmware (C++) in a hard real-time context to execute planned trajectories, determine seat occupancy, self-check the emergency stop system, and ensure a fail-operational response. Designed requirements, developed unit tests, and shipped high-frequency releases.
- **Zoxx, Inc.** Remote / Foster City, CA  
*Firmware Validation Engineer* February 2021 - September 2023
  - **Automated testing for high-assurance firmware:** Created automated firmware tests (Python, HiL, pytest) to ensure safety-critical performance to an ASIL-D standard per ISO 26262.
- **University of California, Riverside** Riverside, CA  
*Research and Development Software Engineer* March 2019 - February 2021
  - **ARPA-E NEXTCAR:** Used Simulink Real-Time and J1939 to develop an automated powertrain controller for a plug-in hybrid electric bus. Co-author of SAE Technical Paper 2020-01-1057, "Dyno-in-the-Loop".
  - **Volvo Trucks Partnership:** Developed, tested, and delivered a driver assistance application for energy efficiency based on traffic signal phase and timing look-ahead information.
- **OSR Enterprises R&D Israel, Ltd.** Petah Tikva, Israel  
*Embedded Security Engineer* March 2016 - December 2016
  - **Automotive Cybersecurity:** Built an attack targeting an infotainment system, capable of transmitting spoofed lidar data over CAN bus. Conducted reverse engineering of 32-bit ARM assembly in IDA Pro.
- **Neomatix, Inc.** Tel Aviv, Israel  
*Internship, Computer Vision Engineer* June 2015 - August 2015
  - **Matlab:** Improved the accuracy of our tread groove identification pipeline. Achieved an improvement of +8% in true-positives and a 10x speed-up using a cubic kernel SVM and Matlab's parallel-for abstraction.
- **BMW-Brilliance Automotive** Shenyang, China  
*Internship, E/E Test Engineer* September 2014 - February 2015
  - **Test driving:** Conducted hardware-in-the-loop, closed track, and public road winter testing of ECU software.
- **ScanDigital (now Memory Ventures, Inc.)** Torrance, CA  
*Film and Video Technical Lead* February 2013 - June 2014
  - **Python and system administration:** As a fast-growing business-Inc. 500, 2013-my responsibilities expanded rapidly. Proposed, designed, and implemented a high-definition telecine for our 16mm film digitization product.

## EDUCATION

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- **Georgia Institute of Technology** Atlanta, GA  
*Master of Science in Computer Science - Computational Perception and Robotics* January 2015 - December 2017
- **Embry-Riddle Aeronautical University** Daytona Beach, FL  
*Bachelor of Science in Aerospace Engineering - Aeronautics* August 2010 - December 2012

## CERTIFICATIONS AND SKILLS

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- **Sensor Fusion Nanodegree, Udacity, July 2019:** Stereo cameras, lidar, radar, and Kalman filters with C++.
- **Deep Learning Specialization, Coursera, March 2018:** Andrew Ng's machine learning courses with TensorFlow.
- **FAA Private Pilot Certificate:** SEL Rating with 70+ hours including some aerobatic, glider, and helicopter time.
- **French language skills:** B1 CEFR

## PROGRAMMING LANGUAGES

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- **Languages:** Python, C++, C, Rust, Matlab, Swift for iOS.
- **Technologies:** Linux, git, embedded systems, pytest, Jira, CAN bus.