

WILL C. FORTE

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Project Website

EDUCATION

Rutgers University–New Brunswick, Piscataway, NJ Projected Graduation: June 2027
B.S. in Mechanical Engineering with Minor in Mathematics & Computer Science

- 3.78 GPA; Engineering Honors Academy Scholar (top 50 incoming engineers); Dean's List; Two Semesters Ahead
- Researcher at Rutgers Robotics and Automation Lab; RU Autonomous Hardware Team; EHA Photographer

Relevant Coursework: Honors Intro Linear Algebra, Honors Calculus III, Honors Statics, CAD, Leadership Communic.

Academy of Math, Science, and Engineering, Rockaway, NJ June 2024

- 3.97 GPA; 4-Year CAD/Product Development Curriculum; 11 AP Classes
- FTC Robotics, Robotics Independent Study Program, Senior-Year Research Internship at NJIT

EXPERIENCE

Research Assistant, **Rutgers Robotics, Automation, & Mechatronics Lab**, Piscataway, NJ October 2024 - Present

- Using scikit-learn ML/AI to approximate the regions of attraction of high-dimensional dynamical systems
- Designing and fabricating the first all-metal chassis for Rutgers' two-legged robot
- Reproduced CMU Lidar-based ROS SLAM stack for autonomous quadruped exploration & obstacle avoidance

Research Assistant, **Rutgers Advanced Controls Lab**, Piscataway, NJ June 2024 - October 2024

- Developed low-level quadcopter control architecture in ROS for PX4-MAVROS-Gazebo SITL simulator
- Created C++ PX4 library with CMake for controlling servos on a tiltrotor quadcopter
- Self-studied HKUST course on UAV control theory; assembled UAV platforms; set up iRobot Create 3 for ROS2

Research Assistant, **NJIT Swisler Innovative Robotics Lab**, Newark, NJ June 2023 - June 2024

- Developed a robotic arm simulation in MuJoCo (Python) using Jacobian inverse kinematics
- Programmed ESP32 microcontrollers with ESP-IDF (C++) to run onboard computer vision (OpenCV)

PROJECTS

Fully-Actuated Quadrupedal Robot ([Project Page on willcforte.com](#))

- Designed and fabricated a 12-servo quadruped robot using spare FTC motors, 3D-printing, and laser-cut gears
- Created model-based control loop using MuJoCo Python bindings and serial bus communication

Cuff-Link Electromyographic Assistive Device ([Project Page on willcforte.com](#))

- Developed a wrist-mounted assistive device for amputees control computers via arm muscle actuation
- Presented final product to a crowd of 200+ at the 2024 Academy Engineering Showcase

Toroidal and Uneven Blade Aeroacoustic Analysis (TUBAA; <https://tubaa.dev>)

- Conducted aeroacoustic CFD analysis in ANSYS Fluent for MIT Lincoln Lab toroidal propellers
- Mentored by Stanford PhD Candidate Gao Jun Wu and UC Davis Professor Seongkyu Lee

TALKS

Workshop: Introduction to the MuJoCo Simulator, Rutgers University, N2E Robotics Club, February 2025

The Cuff-Link Assistive Device, Academy for Math, Sci., & Engg., AMSE Senior Showcase, May 2024

AWARDS

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| • Dean's Scholarship, Rutgers University (top 50 incoming engineers) | 2024 |
| • First Tech Challenge Robotics Think Award | 2023 |
| • Yale University Physics Olympics Fermi Estimation 2nd Place | 2023 |
| • NJAAPT Physics Olympics Champions (first in school's 15-year history) | 2023 |
| • AP Scholar with Distinction, National Merit Scholarship Program Letter of Commendation | 2023 |

SKILLS

Software: ROS1/2, Ubuntu, Git, scikit-learn, OpenCV, MuJoCo, Gazebo, PX4, ESP32, Arduino, Blender, VSCode

Languages: C++, Python, MATLAB, Java, L^AT_EX, Shell Scripting, Vue.js, HTML/CSS/JS

CAD/CFD: SOLIDWORKS, Fusion360, Onshape, ANSYS Fluent, AutoCAD

Fabrication: Manual Mill, 3D Printing, Laser Cutting, Plasma Cutting, Soldering, Breadboarding, Electrical Schematics