# John Santosuosso

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## About

Junior at Virginia Tech with three years of engineering project experience seeking a robotics/mechanical-oriented internship. I am especially interested in rapid prototyping, human-machine interface, robotic manipulation, and bio-inspired design.

## Education

**Virginia Tech** **Expected May 2027**

*Bachelor of Science in Mechanical Engineering* *Blacksburg, VA*

Double Major: Mechanical Engineering, Robotics and Mechatronics; Minor: Biomedical Engineering | GPA: 3.4/4.0

## Skills

**Technical**: SolidWorks, MATLAB, C++, Arduino, Onshape, 3D Printing, GD&T, Machining, Fusion360, Minitab
**Languages**: English (fluent), Mandarin Chinese (basic proficiency), Latin (Massachusetts State Seal of Biliteracy)

## Project Experience

**Researcher, Robotics Engineer – VT CRO** | *Fusion360, Research, Pneumatic Systems* **Sep 2025 – Present**

- Virginia Tech Competitive Robotics Organization (VT CRO) CROLabs Division research project.
- Designing and manufacturing 3-mode robot capable of traversing land, air, and sea for reconnaissance and mapping.
- Preparing to present research at the MIT Undergraduate Research and Technology Conference (URTC) and National Conference on Undergraduate Research (NCUR).
- I am currently developing and testing underwater pneumatic vertical buoyancy system and waterproofing techniques.

**Mechatronics Engineer – e-NABLE at Virginia Tech** | *Arduino, SolidWorks, 3D Printing* **Aug 2024 – Present**

- Developing low-cost, 5-fingered, prosthetic hand aligning with WHO standards and performing 5 essential gestures.
- I am currently testing SolidWorks-designed palm piece to optimize internal component placement for a life-like feel.
- Programmed C++ scripts in Arduino IDE to integrate myoelectric, force sensors and control 3D-printed fingers.
- Presented research at the National Conference on Undergraduate Research (NCUR) in Pittsburgh, PA.

**Project Manager – QuikStep Mock Product Project** | *Siemens NX, FMEA, C++, DFM* **Feb 2024 – May 2025**

- Led 4-person team through design, manufacturing, documentation, and presentation phases of a bed ladder accessory.
- Applied Rapid Prototyping, Design For Manufacturing (DFM), and Failure Methods and Effects Analysis (FMEA).
- Integrated mechanical, electrical systems by programming stepper motor control in C++, survived over 250 lbs of force.

**Mechanical Engineer – CanSat @ Virginia Tech** | *SolidWorks, 3D Printing, Manufacturing* **Aug 2023 – May 2024**

- Constantly designed, manufactured, tested components, studying results and repeating cycle to optimize part design.
- Used laser cutting, CNC machining, 3D printing, electronic assembly (soldering, crimping, wire-routing) to precision-manufacture and assemble probe components.
- Probe survived thermal testing and impact from over 3500 ft while conforming to a 0.9 kg maximum mass requirement.
- Placed 38th of 100+ teams worldwide in NASA, Lockheed Martin–sponsored AAS CanSat competition.

**Upperclassman Leader – Galipatia Engineering LLC** | *Leadership, Community Building* **Aug 2023 – Jun 2025**

- Organized professional and social events for first-year engineering students (resume reviews, fitness, study groups).
- Completed Clifton Strengths Assessment, engineering design, and community service activities.

## Other Pursuits

- Featured course: Special Study: Soft Robotics - Studying swim mechanics and biomimicry to design squid soft robot
- Virginia Tech Strategic Intelligence Organization - Practicing skills such as BLUF writing, red team simulations
- IC CAE Scholar
- Triangle Social and Professional STEM Fraternity – Alumni Relations, Philanthropy
- LinkedIn Learning: SolidWorks Essential Training, SolidWorks Advanced Engineering Drawings, Introduction to GD&T
- FIRST Robotics Competition Team 1757 - Safety Officer (2022)
- Interests: SCUBA diving, Brazilian Jiu-jitsu, language study (Italian & Mandarin), Classics studies, hiking, IM Sports

## Honors

- Virginia Tech Scholars Scholarship Recipient (2023 - Present)
- Philip J. Flaherty Scholarship for Grit Recipient (2023)
- Chinese National Honor Society (2022 - Present)