

Nicolas Coleman

nicolascoleman.me

nicol4sc@stanford.edu

www.linkedin.com/in/nicol4sc

301-448-5967

EDUCATION

Stanford University - B.S. Mechanical Engineering '26

Stanford, CA

Relevant Coursework: ME 104 - Mechanical System Design; ME 103 - Product Realization, Design and Making; ME 80 - Mechanics of Materials; ME 70 - Fluids Engineering; ME102 - Foundations of Product Realization; ME 30 - Thermodynamics, ENGR 14 - Solid Mechanics, Math 53 - Differential Equations, CS106B Programming Abstractions, CS106A - Programming Methodology, ENGR 40M - An Introduction to Making

EXPERIENCE

Research and Development Engineer Intern

06/2025 - Present

Disney Imagineering - Glendale, CA

- Contributed to the development of the next generation of **aqueous animatronics**
- Utilized **SolidWorks** and **XFLR5** within the prototyping and iteration process
- Designed custom equipment to quickly and thoroughly test, iterate and improve animatronic design

Research and Development Engineer Intern

06/2024 - 09/2024

Hacksmith Industries - Cambridge, ON, Canada

- Engineered, **designed and developed a high-performance exoskeleton**, leveraging pneumatic cylinders to achieve capabilities including lifting 200 lbs and deadlifting approximately 2,000 lbs
 - Culminated work into a Viral Youtube Video: [Making Real Life Power Armor](#)
- Contributed to the pneumatic design of the system, and interfaced it with a State Machine to control exo-movements
- Participated in rapid-prototyping process throughout **all phases of life cycle**, leading preliminary research and making significant contributions to design, manufacturing and integration
- Reached 2.5M+ viewers to showcase/inspire engineers around the world in viral testing videos

Robotics Engineering Intern

10/2023 - 01/2024

Kind Humanoid - Palo Alto, CA

- Designed and developed my first biomimetic robotic finger, driven by artificial tendons (Dyneema), ligaments (TPU) and servos
- Used **Python scripts** to integrate servo actuators with custom pulley design integrated into fingers
- Utilized CAD and 3D printing to efficiently prototype throughout multiple designs within a 3 week timeline

PROJECTS

Sky Chess

Personal Project

- Developed a physical chessboard system that combines **machine learning, computer vision, and a custom XY-gantry** to enable interactive gameplay against a machine opponent
- Designed and implemented a Python-based pipeline using **OpenCV** and **scikit-learn**, averaging RGB values of each square and classifying board states with a trained **k-Nearest Neighbors model**
- Engineered a **custom end-effector mechanism** and repurposed a laser engraver as a functional XY-gantry system, integrating G-code logic, serial communication, and an API to execute piece movements based on real-time inputs

Gyroscopic Pan-Tilt “War Machine” Turret with Wrist-Mounted Wearable

Personal Project

- Developed a shoulder-mounted pan-tilt turret (toy gun) system, whose movements were mapped to a **wrist-mounted wearable** with a housed gyroscopic sensor
- Conducted extensive research and implemented an **Arduino** to **interface** with an **MPU6050 Gyroscope sensor** and two servos, mapping wrist activity to precise turret movement
- **Prototyped circuit design** on breadboard before and developing custom **Printed Circuit Board** to ensure a portable hardware experience

Pneumatically Actuated Rapidly Deploying “Wolverine Claws”

Robotics Engineering Intern

- Designed and manufactured **custom pneumatic system** for rapid deployment of arm-mounted blades
- Utilized machine shop skills to **manufacture and assemble** custom manifolds, blades and various parts.
- Designed and built the first prototype within one week, successfully presenting it to the CEO of Hacksmith Industries and demonstrating both rapid development and effective design execution

More Projects on my Portfolio: nicolascoleman.me

SKILLS

CAD: Solidworks & Fusion360, Finite Element Analysis (FEA), PCB Design (KiCAD), Python, C++/Arduino, Computer Vision (OpenCV), API Development, MATLAB, HTML/CSS, Microsoft Office, Communication (written and verbal)