Christopher Choi

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Education

Honors Bachelor of Science in Mechanical Engineering Expected June 2028

Oregon State University, Corvallis, GPA 3.88

***Relevant Courses**: Mechanics and Strength of Materials, Dynamics, Engineering Graphics & 3D Modeling, Statics, Linear Algebra, Applied Differential Equations, Physics with Calculus, Electrical Fundamentals*

Experience

Soft Robotics Research Intern|Oregon State University Dec 2024 – Present

- Tested 5+ prototypes for a new type of omnidirectional isovolumetric joint, resulting in negligible force required to configure bend of soft robot
- Developed a high-performance electroadhesive clutch mechanism using acetone and dimethylformamide to integrate isovolumetric joints with electroadhesive clutches for versatility in soft robotics
- Presented research at a Spring Poster Symposium with over 400 attendees, inspiring future soft robotics ideas

Design/CAD Lead|FIRST Robotics Competition Team 955 Sep 2021 – June 2024

- Designed a robot using Onshape to collect and place cones and purple cubes onto slim poles and boxes using a vision system, awarded **World Championship Qualification** - **3rd out of 50 teams** in Pacific Northwest
- Collaborated with team leads, winning **Excellence in Engineering Award** - **1st out of 34 teams,** demonstrating a professional approach to the design process
- Managed and delegated tasks to a team of 10+ designers, integration of prototypes, and timely achievement of project deadlines utilizing CAD/3D Modeling in 2 and 1/2 weeks

Primary Designer|FIRST Robotics Competition Team 955 Sep 2021 – June 2024

- Researched and modeled an offseason project to enhance circular-shaped object manipulation, increasing design speed execution by 200% - Ball Indexer: https://tinyurl.com/BallIndexer
- Created a custom drivetrain chassis to overcome potential terrain challenges allowing for adjustable bumper mounting and flexibility - West Coast Drivebase: https://tinyurl.com/955WCD

Projects

Robotics Multidirectional Drivetrain|Research Project|*Fusion360/3DPrinting/Prototyping/Arduino*

- Primary designer for custom drivetrain allowing for multidirectional, swerve movement, increasing maneuverability
- Connected the Board of Business and VEXU for specific alterations to marketing and design

Design Workshop & Greenhouse Gutter|Personal Project|*Onshape/Prototyping/Solidworks*

- Organized and presented 2, 3 hour CAD/Design workshops involving Introduction to Onshape and a Design Principles Workshop for community teams
- Administered a team of 20+ for USDA: Greenhouse Gutter Project to develop a solution for stabilizing greenhouse tarps, eliminating need for manual adjustments by personnel

Mechanical Greeting Cards|Research Project|*Onshape/3DPrinting/Mechanical Design*

- Designed and fabricated mechanical greeting cards for K-5 students, inspiring K-5 to engineering/STEM fields
- Inspired 100+ kids in STEM through manipulatives, improving student learning in STEM through hands-on engagement in Corvallis, Greater Albany, and Beaverton school districts

Robotics Mentoring & Outreach|Personal Project|*SolidWorks/3DPrinting/Outreach*

- Directed robot demonstrations at 3+ local Corvallis elementary schools, high schools, and community events
- Mentored FTC adopting technical expertise to inspire and benefit robotics community

Skills

CAD: Onshape, Fusion360 (CAD), NX Siemens, SolidWorks

Technical: Manual machining (mill, lathe, etc.), 3D Printing, Prototyping, Mechanical Design

Clubs: Engineering Student Council|Leadership Empowerment & Purpose|VEXU Research|SASE|APASU