

Samuel Paul Lum

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EDUCATION

VIRGINIA TECH

Bachelor of Science in Mechanical Engineering

GPA: 2.887

Expected May 2028

TECHNICAL SKILLS

CAD & Design: Siemens NX, Fusion 360

Program & Analysis: MATLAB, Statistical Analysis

Manufacturing & Fabrication: CNC Machining, G-Code, Laser Cutting, 3D Printing, Weldin, Sand Casting

Construction & Equipment: Heavy Equipment Operation, Carpentry

Certifications: Google Data Analytics Professional Certification (in progress), Google AI Essentials (in progress), Certified SOLIDWORKS Associate (in progress)

WORK EXPERIENCE

Westwood Professional Services | Staunton, Virginia

Survey/Civil Engineering Intern

May – Aug 2026

- Process total station and GPS survey data using Carlson Survey and AutoCAD Civil 3D
- Draft survey linework, surface models, grading plans, and plats for residential and commercial land development
- Perform field surveys, including as-built and improvement surveys, to collect and verify accurate site data.
- Collaborate with engineers and survey crews by balancing office drafting and data processing with field data collection

Moffett Paving and Excavating | Staunton, Virginia

General Labor

May 2024 - Aug 2025

- Supported residential and municipal paving, excavation, grading, and site preparation projects.
- Operated rollers and backhoes while assisting with grade verification using laser levels to support accurate earthwork
- Utilized construction equipment and tools, including plate compactors, heavy-duty saws, and impact tools
- Collaborated with experienced construction crews to complete projects efficiently in fast-paced field environments

PROJECTS

Smart Trash Bag Attachment (Virginia Tech Engineering Design Project)

Jan - May 2026

- Led the CAD design of a mechanical attachment intended to automate the sealing and removal of trash bags
- Designed components in Siemens NX and prepared models for additive manufacturing using a Bambu Lab 3D printer
- Fabricated and assembled a proof-of-concept prototype through multiple design iterations
- Collaborated with a multidisciplinary engineering team to design and identify opportunities for future improvement

Smart Crosswalk Safety System (Virginia Tech Engineering Design Project)

Jan - May 2025

- Served as the primary CAD designer for a smart pedestrian crossing system intended to improve crosswalk safety
- Designed structural components in Fusion 360 and assisted in constructing and testing the prototype
- Integrated infrared sensors and ground lighting to demonstrate the system's safety concept
- Collaborated with a multidisciplinary engineering team throughout design, fabrication, and testing

ADDITIONAL EXPERIENCES

American Society of Mechanical Engineers (ASME) Member

Sept 2025 – Present

Virginia Tech Men's Soccer | Blacksburg, Virginia

Aug 2025 – Present

Student Manager

- Coordinate equipment logistics for practices, competitions, and team travel
- Manage setup, inventory, and transportation of training equipment to support daily team operations
- Assist coaches with practice and game-day preparation for a Division I NCAA program