

Ryan Christ

☎ 585-737-3757 ✉ ryan.christ@duke.edu 🔗 [linkedin.com/in/ryan-christ-92660126b](https://www.linkedin.com/in/ryan-christ-92660126b)
Visit my portfolio: 🌐 ryanjchrist.github.io



Education

Duke University - Pratt School of Engineering

Bachelor of Science in Mechanical Engineering - GPA: 3.69 / 4.00

May 2026
Durham, NC

- **Secondary Major:** Computer Science
- **Relevant Coursework:** Calculus I, II & III, Linear Algebra, Diff Eq, Physics I & II, Thermodynamics, Control Systems, Structure/Properties of Solids, Mechatronics, Mechanics of Solids, & Dynamics, Chemistry, CS: Data Structures & Algorithms, Computer Architecture, Fluid Dynamics, Mechanical Engineering Design

Hilton High School

GPA: 4.0 / 4.0

June 2022
Hilton, NY

- **Awards:** Valedictory Honors, Academic Merit, Chemistry Achievement Award, MCPSACC Top Scholar Athlete

Experience

Monroe County - Department of Transportation

Engineering Intern - Highway & Bridge Engineering

May 2024 – August 2024

Rochester, NY

- Automated data integration of bridge and culvert reports between SAP software and Excel, utilizing the Command Prompt. Streamlined the inspection and reporting process for 192 bridges and 344 major culverts.
- Calculated moment arms for traffic signal masts, analyzing load factors such as weight, wind, ice, and factors of safety. Ensured compliance with updated engineering standards to maintain structural integrity.
- Redesigned parking lot layout plans on AutoCAD LT ensuring accuracy conforming to design specifications.
- Facilitated and engaged in meetings for planning, programming, and overseeing the design and construction of Capital Improvement highway, bridge, and culvert projects.

Duke Bass Connections - Research

Using Drones and Radio Telemetry Systems To Monitor the Health of Endangered Elephants

April 2024 - Present

Durham, NC

- Manufactured toroidal propellers to measure acoustics levels of various DJI drone models against standard propellers. Used spectral analysis to quantify noise disturbances and optimize UAV strategies for minimal wildlife disruption.
- Tested and aided in developing a laser altimeter for the DJI Air 3, utilizing an Arduino and laser sensors.
- Tested two and three dimensional (drone image data and LIDAR technology) methods of analyzing elephant body conditions.
- Conducted literature reviews and participated in decolonization discussions for international research.

Duke University

Teacher Assistant - Mechanics of Solids (EGR 201)

August 2024 – Present

Durham, NC

- Led labs and discussions to instruct and support students on key concepts, including static force systems, equilibrium, and the mechanical behavior of materials.
- Taught students to apply principles of stress, strain, and material deformation to solve practical engineering problems involving beams, torsion members, and columns.
- Guided students through selected laboratory work, demonstrating the use of a load cell and extensometer to calculate the modulus of elasticity and shear modulus for different specimens.

RJ Christ Excavating & Paving

Seasonal Construction Worker

June 2018 - August 2024

Hilton, NY

- Excavated and installed residential and commercial asphalt driveways.
- Responsible for operating and maintaining a diverse set of heavy machinery including loaders, excavators, backhoes, and pavers.

Projects

3D Printing and Prototyping

June 2022-Present

- Designed 3D printed parts to function on commercial equipment at RJ Christ Excavating & Paving to greatly reduce repair costs.
- Modeled families' heads on various figures; Created unique gifts, ie. Spotify Picture Frame using a laser cutter.

Rock Relocation Solution

January 2023 - May 2023

- Designed a system with 4 pulleys to significantly reduce the force required to lift and transport the rocks. This setup allowed for precise control and minimized user effort.
- Collaborated with client on factors such as cost-efficiency, ease of use, and durability in outdoor conditions during the design and material selection process.

Technical Skills

Technical: 3D Printing with Prusa i3 MK3S+ & Ultimaker 2/3, Soldering, Laser Cutting

CAD Softwares: Solidworks, AutoCAD, Fusion 360, Inventor

Languages: Python, MATLAB, Java, Maple, Visual Basic,

Arduino, LaTeX (used to create this document)

Social Engagements

Club Member : Bass Connections, Men's Club Soccer, IM Soccer

Volunteer: Hilton Elementary School - Teacher Assistant, Tutoring

Sports-Engagements: Soccer, Running, Golf

Interests: Prototyping, 3D Printing, Drones