

Arjun Menezes

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EDUCATION

Wesleyan University, Middletown, CT, *Bachelor of Arts*, GPA: 4.0/4.0

May 2027

Double Major: Physics and Integrated Design, Engineering, Arts & Society (IDEAS)-Mechanical & Materials Engineering Concentration
Minor: Education

Related Coursework: Mass Manufacturing, Mechanics & Materials, Metal Manufacturing, Thermal Physics, Waves & Oscillations

Computer Skills: MATLAB, Python, R, SolidWorks, Onshape, Fusion360, SimScale, Ultimaker Cura, PrusaSlicer, Preform, BambuStudio

ENGINEERING EXPERIENCE

Course Instructor, **Wesleyan University**, Middletown, Connecticut

August 2024 – Present

- Created and instructing “3D Printing: From Design to Product” a full-semester university course for full credit, covering primitive and parametric CAD, 3D Printer design, construction, and maintenance, and design for additive manufacturing processes.
- Instructed 10 students for 3 hours a week in lab and lecture-focused coursework. Created relevant homework and exam assignments to promote using 3D printing for practical and novel problem-solving approaches.
- Secured funding for 3D printers for every student to build during the course and then take home, along with air filtration units.

Professional Cyclist, **Equipe Goa Invencivel**, Goa State Team, Goa, India

January 2021 – March 2025

- Custom engineered and built an aerodynamic racing setup at 10% of the average cost. Designed and 3D printed custom aerodynamic racing equipment. Managed and altered equipment to optimize aerodynamics and mitigate drivetrain frictional losses.
- UCI licensed professional cyclist competing at the national level with a focus in the Time Trial. Top national rank of 15. 2020 & 2021 Goa State champion for Road Race & Time Trial. First Team rider for Equipe Goa Invencivel, a private racing team.

Makerspace Monitor, **Wesleyan University**, Middletown, Connecticut.

September 2023 – Present

- Studio Assistant for the IDEAS Lab: Course assistant for mechanical and electrical engineering, supervisor of the makerspace, assistant for student projects, maintaining and repairing 3D printers, Laser Cutters, and other machine shop appliances.
- Manager of the large-format Delta 3D Printer. Building custom slicing profiles, performing all maintenance, and pursuing mass production FDM projects in PLA, PETG, and TPU.

Medical Model Design, **Wesleyan University and Middlesex Hospital**, Middletown, Connecticut

January 2024 – Present

- 3D printing uterus and other biomechanical models with Middlesex Hospital to train obstetricians to install IUD's, x-ray dislocated joints, and perform analyses of body parts.
- Leveraging material properties and performing edits to 3D scans of real patients to optimize for 3D printing success while ensuring biological accuracy in geometry and function.

RESEARCH EXPERIENCE

Research Assistant, **Wesleyan University**, Middletown, Connecticut

January 2024 – Present

- Undergraduate Research Assistant with the Voth Group in the Fluid Dynamics and Soft Matter Lab.
- Designing, fabricating, and analyzing helical ribbon and propeller sedimentation in turbulent high Reynold's number and quiescent Stokes flow regimes. Measuring geometric characteristics and their effects on sedimentation dynamics.
- Worked on “Breaking Symmetries in Chiral Sedimentation”, “Chaotic Sedimentation of the Helical Ribbon”, “Mobility tensor fitting to chiral geometries in low Reynolds number fluids”, and “Chiral and Achiral particles in turbulent flows”.

College of Integrative Sciences Summer Research Fellow, **Wesleyan University**, Middletown, Connecticut

June 2025 – August 2025

- Worked on high-accuracy particle tracking to find orientation, position, velocity, and rotation rates for mobility tensor fitting.
- Winner of the Maureen Snow Summer Poster Prize for effectiveness in communicating work to a broad audience.
- Winner of the CIS Research in the Sciences Image Prize with the entry “Phase Space of the Sedimenting Chaotic Helical Ribbon”.

TEACHING EXPERIENCE

3D Printing and Cycling Teacher/Coach, **Woodstock School**, Uttarakhand, India

May 2023 – June 2025

- Taught 28 students from 11 to 16 years old. Content covered primitive and parametric CAD, 3D Printer design, construction, and maintenance, and design for additive manufacturing for 2 hours a day over a 2-week course in a boarding school setting.
- Instructed 26 students on best practices for road safety, strength training, race strategy, pacing methods, and technical skills.

Course Assistant, **Wesleyan University**, Middletown, Connecticut

August 2024 – Present

- Course assistant for Nonlinear Dynamics and Chaos, Physics I-Newtonian Mechanics, and Physics II-Electricity and Magnetism.
- I conduct help sessions helping students tackle homework assignments with numerical problems and MATLAB code. I also assist in conducting problem-solving sessions with 14 groups of 3 students solving problem sets during scheduled class sessions.

EXTRACURRICULARS AND INTERESTS

Interests: Experiment Design, Product Development, Finite Element Analysis, Computational Fluid Dynamics, Arduino Projects

Extracurriculars: Founder of Wesleyan University's first engineering club, certified drone and RC aircraft pilot, 3D modelling enthusiast