Shreyas B Karadi

ShreyasKaradi@gmail.com +(1) (919)-358-5550

EDUCATION

Duke University, Pratt School of Engineering **Durham, NC**
Bachelor of Science in Mechanical Engineering *Aug' 22- May'26*

- **GPA**: 3.43
- **Engineering Merit Scholarships** : Dorcas Maynor and E. Ray Bucher, Jr. Scholar, Bee-Keng Boey Scholar
- **Relevant coursework**: Aircraft Performance, Compressible Fluid Flow, Heat Transfer.

TECHNICAL SKILLS

Software [Python, MATLAB, SolidWorks, Fusion360, MS Office, Ansys, AutoCAD]
Engineering [Private Pilot's License(FAA Part 61,Part 107, Arduino, Geometric Dimensioning & Tolerancing(GD&T), Tolerance Analysis, Engineering Drawings, Computational Fluid Dynamics, Finite Element Analysis]
Manufacturing [Kaizen & Lean Manufacturing, CNC Machining, Injection Moulding, Prototyping, Water Jetting]

ENGINEERING EXPERIENCE

Mechanical Engineering Intern | Trio Labs | Durham, North Carolina May'25 – Aug'25

- Improved production efficiency by 25% through redesign of chemical transfer processes.
- Worked with a small R&D team to troubleshoot next-gen additive manufacturing equipment.
- Designed and executed printer validation tests that increased commissioning speed by 50%.

Aeroelasticity Lab Research Assistant | Duke University Apr '24 - Present

- Investigated drag reduction via flexible riblet designs; fabricated test samples using 3D printing and laser cutting.
- Conducted wind tunnel experiments with load cell instrumentation and automated data logging.
- Used ANSYS Fluent and FUN3D to simulate steady flow conditions; validated simulations against test data.

Stall Strip Aerodynamics Researcher| Duke University Aug'25- Present

- Designed leading-edge stall strips for a NACA 0015 airfoil and evaluated their aerodynamic impact in a wind tunnel.
- Analysed stall onset, lift performance, and efficiency trade-offs under low to moderate Reynolds number constraints.

Hydropower Systems Modelling & Energy Planning Researcher| Duke University Aug'25- Present

- Co-authored peer-reviewed paper on HEADFIT, a physics-based model improving hydropower forecasts in energy planning.
- Found and corrected static assumptions that overestimate generation by ~5%, impacting grid reliability and investment decisions.

Chassis Design and Assembly Engineer | Duke University Motorsports Aug '23 – Present

- Created SolidWorks models and engineering drawings for pedal box and support jigs.
- Applied GD&T and tolerance analysis to ensure compliance with FSAE standards.
- Used CNC machining and fixturing to improve accuracy and structural integrity during chassis assembly

Materials Science Lab Research Assistant | Volker Blum Lab | Duke University Jan '23 - July '23

- Studied chalcogenides and oxide perovskites as silicon alternatives in solar cells.
- Managed data using MySQL, DataGrip, and GitHub to maintain and update the Muchas database.
- Documented findings to support global research access and reproducibility.

LEADERSHIP & ACTIVITIES

Duke Cycling: Managed $20K budget; organized fundraising events and coordinated with vendor.
Lead Flight Test Engineer Electric Glider Performance Improvement Project: Provided technical and team leadership as Lead Flight Test Engineer, coordinating tasks, delegating responsibilities, and aligning testing goals with design objectives

Languages: French (Fluent), Hindi (Fluent), Spanish (Intermediate), Kannada (Native), Japanese (Beginner)
Interests: Aviation, Ice/Road Speed Skating,Cycling, Cricket, Pickleball, Photography