
EDUCATION

- Duke University** - Erdman Engineering Scholarship recipient **May 2025**
B.S. in Electrical and Computer Engineering and Computer Science | Accepted to Duke Masters of ECE | GPA: 3.78/4 Durham, NC
- South Carolina Governor's School for Science and Mathematics (SCGSSM)** **May 2022**
● **Honors:** SCGSSM Robotics Award, FRC Design Award S.E. region, National Merit, ACCESS CCEP Grant, Pratt Research Grant

WORK EXPERIENCE

- Duke Capital Partners** (dukecapitalpartners.duke.edu) | *Computer Science Associate* (Durham, NC) **Oct 2023 – Current**
● Led due diligence for AI and cloud startups, contributing to \$25.8M in investments and closing three deals. Influenced decisions, boosting portfolio value to \$5B. Youngest Associate hired, driving a 15% increase in returns.
- Stanford Linear Accelerator Center National Lab** | *Machine Learning Researcher / DevOps Engineer* **Jun 2023 – Current**
● Developed a surrogate ML model for simulating the FACET-II particle accelerator, creating a simulation speed up of 26,000x.
● Ran 900 computational simulations in an optimization study to aid virtual accelerator diagnostics. Published research at the International Particle Accelerator Conference 2024. doi.org/10.18429/JACoW-IPAC2024-MOPS02
● Built scalable cloud workflows using Docker and Apptainer to containerize complex physics simulation software environments for on-prem HPC compute. Reduced setup time from days to minutes and decreased setup errors by 98% for the nation's top Plasma Wakefield Acceleration research lab. Focus on online modeling and ETL data management platform development.
- DeAP Learning Labs** (deaplearning.com) | *Founder and CTO* (Durham, NC) **April 2023 – Current**
● Founded and directed an AI-driven educational startup that has empowered over 105,000 students with personalized AP history exam preparation, transforming traditional education through scalable, interactive AI by answering 1,100,000 questions.
● Developed custom, scalable RAG based LLM API on AWS using docker, Weavaite, Fastapi, ec2, CI/CD achieving 98.82% uptime
- Duke Aeroelasticity Lab** | *Computational Fluid Dynamics Researcher* (Durham, NC) **May 2022 – May 2024**
● Conducted CFD research on transonic buffet, reducing computational resources by 30% using Euler equations over Navier-Stokes. Achieved 3.39% error in RMS lift coefficient with .005m mesh, enhancing analysis of lift behavior. 10.13140/RG.2.2.29185.53607
- Self-Driving Golf Cart Initiative** | *Design / Mechanical Lead – Founder of ongoing program* **Jan 2022 – May 2022**
● Engineered a modular, fully autonomous self-driving golf cart system, transforming old golf carts into eco-friendly, on-demand campus transportation; secured \$35,000 in grants from Google, SC Department of Education and praise from Boston Dynamics
● Implemented linear actuators, LiDAR, Nvidia Jetsons, and stereolithographic cameras to enable autonomous drive by wire
- University of South Carolina Research Computing Lab** | *Deep Learning Researcher – High School* **Jun 2021 – Aug 2021**
● Conducted an analysis of PyTorch / TensorFlow / MxNet deep learning frameworks on ImageNet / CIFAR10 / CIFAR100 datasets
● Revealed 5+ accuracy differences between Deep Learning frameworks, revealing a new research field for the USC ARC Lab
● Authored [paper](#) for South Carolina Junior Academy of Sciences (3rd place) / Presented oral presentation (2nd place)

LEADERSHIP & EXTRACURRICULAR INVOLVEMENT

- Duke IEEE Chapter** | *Duke Chapter President and Founder* **Dec 2023 – Current**
● Established chapter to bridge the gap between Duke faculty, students and industry and facilitate valuable exposure to industry conferences. Grew chapter to 245 members within 3 weeks.
- Duke Robotics Mentorship** | *Duke Club President* **Jan 2023 – May 2024**
● Directed organization dedicated to delivering free, hands-on robotics and programming courses to four local middle schools, inspiring a passion for STEM in 80+ students. Raised \$1500 from grants to support operations.
- Mindfulness Program** | *Founder and Director* **Jan 2021 – May 2022**
● Established weekly mindfulness course at SC Governors school, reducing stress in over 40 high-achieving, competitive students
- FIRST Robotics** | *Team Captain (FTC 327) / Lead Driver, Fabrication Specialist (FRC 2815) / Mentor* **Jan 2020 – May 2023**
● Launched a fabrication sub-team, restructured FRC 2815's mechanical workflow with OnShape, leading to a 14th place finish out of 63 teams at Palmetto regionals and winning SCRAP 2021 regionals.

PROJECTS – View on github.com/sanjeev-one

- Audio Blog** | *Serverless Rust AWS microarchitecture that deploys recorded conversations into AI written Blogs* **May 2024**
- Incognito** | *Stanford Tree Hacks – facial recognition to personal information pipeline to raise privacy awareness* **March 2024**
- Rust DevOps** | *Collection of Rust based AWS DevOps projects done in preparation for AWS certification* **March 2024**

SKILLS AND INTERESTS

- **Skills/Certifications:** Rust, Python, Docker, Linux, Git, ETL pipelines, AWS – EC2, lambda, ECR, VPC, AZURE, GCP, K8s, WSGI API, MATLAB, ANSYS fluent, tensorflow, pytorch, Microsoft Suite, SQL, homelab | Polish (fluent), Chinese (conversational)
- **Interests and Books:** XC running, Cooking, Mountain Biking, Skiing, 3D printing | Your Face Belongs to Us, Deep Work, Venture Deals