SANJEEV CHAUHAN

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AI/ML researcher with venture capital experience, aiming to expand into semiconductor research and industry. Inspired by John Bardeen's belief that "the most important work is done on the borderlines between different areas of science," I am driven by the strategic role of semiconductors in technological advancement and a passion for interdisciplinary innovation.

EDUCATION

Duke University - *Erdman Engineering Scholarship recipient* **May 2026**
B.S. in Electrical / Computer Engineering and Computer Science 2022 - 2025 | Masters of ECE: Semiconductor Technology '26
Coursework: Microelectronic Devices, Computer Architecture, Digital Systems, OS, Networks, Cloud DevOps
Honors: IEEE HKN President, SCGSSM Robotics Award, ACCESS CCEP Grant, Pratt Research Grant

WORK EXPERIENCE

Semiconductor Devices Research – Roy Lab @ Duke | *AI Hardware* **May 2025 – Current**
- 2 IEDM publications, 2D materials, Neuromorphic Computing (Memristors), Artificial Synapses, AOS
- Fabricating ITO based GAAFETS @ SMIF for VLSI 26

Duke Capital Partners (dukecapitalpartners.duke.edu) | Seed Stage VC **-** *Associate* **Oct 2023 – Current**
- Youngest Associate hired, closing four deals worth $30.8M in investments
- Led AI powered data sourcing pipeline creation

Stanford Linear Accelerator Center National Lab | *Machine Learning Researcher / DevOps Engineer* **Jun 2023 – Jan 2025**
- Published research at the International Particle Accelerator Conference 2024 on developing a 2600x faster digital twin ML model for simulating the FACET-II particle accelerator.
- 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%.

DeAP Learning Labs (deaplearning.com) | *Founder and former CTO* **2023 – May 2024**
- Founded and directed an AI-driven educational startup that has empowered over 258,000 students with free personalized AP history exam preparation, transforming traditional education through scalable, interactive AI by answering 3M questions.
- Developed custom, scalable RAG based LLM API on AWS using docker, Weavaite, FastAPI, achieving 98.82% uptime

Duke Aeroelasticity Lab | *Computational Fluid Dynamics Researcher* **2022 – May 2024**
- Conducted CFD research on transonic buffet, reducing computations by 30% using Euler equations over Navier-Stokes.

Self-Driving Golf Cart Initiative | *Design / Mechanical Lead – Founder of ongoing program – High School* **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

University of South Carolina Research Computing Lab | *Deep Learning Researcher – High School* **2021**
- Conducted an analysis of ResNet 50 on ImageNet and CIFAR-100 across PyTorch, TensorFlow and MxNet deep learning frameworks
- Authored paper for South Carolina Junior Academy of Sciences (3rd place) / Presented oral presentation (2nd place)

LEADERSHIP & EXTRACURRICULAR INVOLVEMENT

Duke IEEE / HKN Chapter | *President & Founder (Institute of Electrical and Electronics Engineers)* **Dec 2023 – Current**
- Raised 31k, 360+ members, bridging the gap between industry, faculty and students.
- Hosted and taught NSF funded conference on supercomputing + AI practices for upcoming researchers.

Duke Robotics Mentorship | *President* **2023 – May 2024**
- Directed organization dedicated to delivering free, hands-on courses to four local middle schools, impacting 80+ students.

FIRST Robotics | *Team Captain (FTC 327) | Lead Driver, Fabrication Specialist (FRC 2815) | Mentor Projects* **2020 – 2023**

Audio2Blog | *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**

SKILLS AND INTERESTS

- **Skills/Certifications:** Rust, Python, Docker, Dask, SLURM, Linux, AWS, AZURE, MATLAB, ANSYS fluent, HPC DevOps, Accelerator Physics, Semiconductor Fabrication (SMIF @ Duke) | Polish (fluent), Chinese (conversational)
- **Conferences:** Device Research Conference, Aeroconf 25, presented @ Supercomputing 24, International Particle Accelerator Conference 24, SC23, NC Space Symposium 23