Ishaan Parikh

Ithaca, NY 14853
(650)350-1300 | idp7@cornell.edu | US Citizen

EDUCATION

Cornell University, College of Engineering, Ithaca, NY **Expected May 2029**
Bachelor of Science, Electrical and Computer Engineering, Dyson Business Minor for Engineers
Relevant Courses: Intro to Nanotechnology, Calculus III, Network theory, Writing: Research and Rhetoric

PROFESSIONAL EXPERIENCE

Matter Motor, Ahmedabad, India, *Research Intern* **Mar 2022 – Jun 2024**

- **Laser-beam welding,** formulated parameters in laser beam welding. Observed a 72% increase in joint efficiency for the Cu-Hilumin battery busbar connections used in Matter Motor electric motorcycles.
- **Composite materials,** worked on composite material foam for battery insulation and cushioning to protect from oscillations and heat. Two compounds comprising of Poly-propylene glycol, and modified poly-iso-cyanate.
- **Weld Fault Detector,** developed an intuitive application which scans for weld faults in Battery Management Systems (BMS) using YOLOv8. Implemented and reduced in line checking time by 60%.
- **Self-driving research,** created a novel custom object detector based on the primary data, built upon the YOLO v5 (now v8) architecture. Implemented model on Qualcomm Snapdragon 700 SOC.

LEADERSHIP EXPERIENCE

Lead Organizer, TEDx Radical Reforms, Ahmedabad, India, *Co-lead Organizer* **Jun 2025**

- Led one of the most successful TEDx events in our state with over 200 participants and 8 speakers
- Directed a team of 40 volunteers; organized them into teams to ensure collaboration and flawless execution.
- Handled budgeting and sponsorships from several companies ensuring 100% coverage of our expenses.

Threads4Good, Ahmedabad, India, *Co-Founder* **Jun 2023 – Jun 2025**

- Upcycled 3,000 kg textile waste to 2,600 school bags donated to underserved children in rural India
- Raised $2.4k through grants and pitches to textile firms.
- Empowering 20+ widows and persons with disabilities, providing employment at 1.4 times minimum wage.

RESEARCH EXPERIENCE

Quantum Research, Nirma University, Mentor: Prof Nagendra Gajjar, Ahmedabad, India **June 2025 – Present**

- Developed a stochastic model for MapReduce, used differential equations to approximate the system
- Measuring Quantum Speedup in Regression models, Image data, and Video data

Sodium-ion battery research, Mentor: Stepan Ozerov, PhD student, Purdue University **Aug 2024 – Jan 2025**

- Analyzed economic and electro-chemical shortfalls of Lithium-ion batteries compared to Sodium-ion batteries.
- Evaluated feasibility of Sodium-ion batteries in grid power storage, electric vehicles, and consumer electronics.
- Compared characteristics of technologies to see where Sodium-ion batteries could replace Lithium-ion batteries

SOFTWARE PROJECTS

Polymer Prediction **Jun 2025 – Aug 2025**

- Developed Graph Neural Network (GNN) models in PyTorch Geometric to predict key polymer properties
- Leveraged RadonPy and PolyMetriX curated Tg, improving model generalization beyond experimental data
- Implemented ensemble modeling across GNN and NLP pipelines, benchmarked with MSE, MAE metrics.
- Achieved ~95% accuracy (5% MSE) using pretrained transformer models

X-Ray pneumonia detector **Aug 2023 – Oct 2023**

- Built object detection pipeline using YOLOv3 to identify and localize pneumonia infections in chest X-rays.
- Trained YOLOv3 on X-ray images, optimizing anchor boxes, hyperparameters for medical image analysis.
- Achieved 53 mAP (mean Average Precision), demonstrated model's ability to capture spatial abnormalities.

SPECIALIZED SKILLS AND AWARDS

Programs and Tech: Python, R, Java, C++, HTML**,** KiCAD, Blender, Fusion 360, Arduino, RaspberryPi
ML experience: Regression techniques, CNNs, NLP, YOLO, RCNN
Languages: English, Hindi, Gujarati
Awards: Highschool Valedictorian, Crest Gold Award for exceptional research, 1st in school: AMC 12(AIME qualifier)