Shivam Patel

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EDUCATION

Georgia Institute of Technology   Atlanta, GA
Bachelor of Science in Computer Science   *May 2025*
- **Coursework:** Data Structures & Algorithms, Linear Algebra, Computer Organization & Program, Design Algorithms, Objects and Design, Operating Systems and Networks, Combinatorics, Statistics
- **Threads:** Modeling/Simulation & System Architecture
- Dean's List

TECHNICAL SKILLS

Languages: Java, Python, Javascript, Typescript, Rust, C, C#, C++, HTML, Golang, Assembly
Frameworks/Database: React, Angular, Nodejs, Docker, MySQL, Postgres
Software: Unreal Engine, Blender, Git, Rhino

EXPERIENCE

Stride Labs   Atlanta, GA
Software Engineer Intern   August 2024 - Present
- Aiding startup to help create **AI-driven** CAD automation for custom medical orthotic insoles, reducing manual design time from 4 hours to approx. 1 sec, leading to **10x** increase in engineering output.
- Spearheaded the development of advanced ML algos (**NN, Linear**) enabling the rapid generation of key anatomical points from foot scans and the creation of highly accurate, customized 3D CAD models via Open3D and PyVista.
- Implemented **AWS S3** to host a React page instance that allowed clients to upload hundreds of large (500Mb+) 3D scan files (Ladar/Lynx) to stored database buckets for training models.

Georgia Tech SMUR   Atlanta, GA
Software Researcher   January 2024 - Present
- Analyzed data from over **17,000+** Georgia buildings, selecting high-impact variables (via **Heatmaps**) to build **predictive surrogate** models for energy consumption using ML techniques (Random-Forest, Neural Networks).
- Leveraged cloud computing via GaTech's PACE **supercomputer**, later comparing the various **ML** models (Multivariate) with back-test data generated by 3D simulations of heating/cooling outputs. Switching to surrogate modeling showed prediction speed improvements by **97%**.

PROJECTS

IMC Prosperity 2 | *Python, Pandas, NumPy, Scikit-learn*   April-May 2024
- Attained top **1% ranking out of more than 10,000 teams** worldwide in quantitative trading competition, implementing advanced trading strategies including **Pair Trading, Mean Reversion** and **Linear Regression**.
- Developed **predictive models** using ML and time analysis, achieving **Sharpe ratio of 3.5** and **65% accuracy** in market predictions, with utilization of **back-testing** to train the model.
- Lead **manual strategies**, implementing game theory psychology to beat on average **97%** of competing teams, whilst optimizing algorithm to enable real-time decision making.

Unreal Engine Void Seeker | *Unreal Engine, C++, Blender3D, Photoshop*   December 2022
- Built **multi-platform** video game, with **touch-detection** and **input translations**, with custom designed **3D Models**, where the player must avoid or collect various falling objects.
- Experimented on **Procedural Generation** to diversify classes of objects, whilst also implementing a **Probability Tree** that updates gameplay depending upon user inputs.

LEADERSHIP

BAPS Akshardham North America | *Volunteer, Construction Management*   June 2022 - August 2023
- **Lead**, managed, and trained a diverse team of more than **30** volunteers from various ages, careers, and backgrounds, to help **traditionally** construct the Akshardham monument, **oversaw** delivery logistics to various sites.
- Overlooked a mass **7-month** inventory reorganization project that sorted all the mismatched inventory of **9000+** crates, using a **data bot algorithm** that updated the location and contents of the container which saved months off the projects (**25%**) as it rid the time to search and pair the ordered carvings.