SOHAM PATIL

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EDUCATION

BS in Computer Science   **Blacksburg, VA**
Virginia Polytechnic Institute and State University (Virginia Tech)   *Expected May 2025*
Association for Computing Machinery (VP), Innovate Living-Learning, Apex Startup Program, AutoDrive Engineering, Consulting Group (CGVT)

Awards - **DE Shaw** Connect Fellow, STARS AI Scholar (**NSF** funded), Atlas Fellow **($50K** scholarship), Impact Labs Fellow

Programming Skills: Python, C, Java, React, HTML, CSS, JavaScript, TypeScript, Linux, Git, Node, OpenAI API, MongoDB, SQL

UNDERGRAD RESEARCH

Dr. Viswanath's Lab, Department of Computer Science   **Blacksburg, VA**
AI Research Project   *Fall 2023*
- Conducted research under Dr. Bimal Viswanath on **prompt injection** attacks, focusing on benchmarking **foundational models** (LLMs).
- Executed adversarial simulations on **LLMs** like Vicuna 33b and OpenAI **GPT 3.5** using techniques in quantization, pruning, and fine-tuning.
- Worked on **LLMOps**, including model training and testing, by utilizing **Lymsys.org** for benchmarking open-source models like **Llama-2 16b**

Orthopedic Mechanobiology Lab, Department of Biomedical Engineering and Mechanics   **Blacksburg, VA**
Machine Learning Research Assistant   *Sept 2023 - Present*
- Advised by Dr. Wang. Working towards a paper on machine learning **image segmentation** models for patellar tendons.
- Deployed deep learning **neural networks** (ImageNet) to classify tendinopathic ultrasound images of athletes using **TensorFlow**.
- Translated SOTA architectures (UNet, Duck-Net) from literature into Python code; used SIFT algorithm for feature extraction on images.

WORK EXPERIENCE

Raylu.dev (Seed-stage, $4M+ raised)   **Remote**
LLM Engineering Intern   *Jan 2024 - Present*
- Spring 2024 co-op at a venture-funded AI startup. Building LLM-powered **workflow automation** tools for enterprise software.
- Wrote Python code to translate natural language into **GPT4**-powered automated workflows; experimented with **open-source LLMs**.

ConstructWorks AI (venture-funded startup)   **Blacksburg, VA**
AI/ML Software Engineer Intern   *Aug 2023 - Dec 2023*
- Collaborated with a team of 5 engineers on an **LLM-powered** case management and client onboarding software for lawyers.
- Led **front-end** dev using React, JavaScript, and TypeScript, managed PostgreSQL databases, and automated UI testing using **Cypress**.
- Utilized **OpenAI API** to enhance LLM functionalities; built a document summarizer using **langchain**; added Deepgram AI for speech.

SAE AutoDrive (GM Autonomous Vehicle Challenge)   **Blacksburg, VA**
ML Software Engineer   *Oct 2022 - Present*
- Part of the **computer vision** sub-team for Virginia Tech's student-led build team converting a Chev. Bolt into an **L4 autonomous vehicle.**
- Worked on hardware **image capturing** and trained custom computer vision models on those for signal and railroad crossing detection.
- Building **ROS** integration with hardware (C++), building OCR **neural networks** for signal image reading from scratch.

Academy of Integrated Science, Virginia Tech   **Blacksburg, VA**
Data Designer, Part-time   *Mar 2023 - Present*
- Single-handedly built a **PowerBI** data dashboard for storing and analyzing financial budget data for the Virginia Tech Admin.
- Used **PowerBI** to construct the visualization dashboard; used Python libraries like **numpy, pandas** to clean, manage, and automate data.
- Streamlined data management processes by automating **data pipelines** with Python and **SQL** to transform data into actionable insights.

KiranaKart (Now, <u>Zepto</u>) - Unicorn Startup YC W21   **Mumbai, India**
Vice President, Operations and Growth (Founding Employee)   *Dec 2020 - Apr 2021*
- Joined as the **third full-time employee** and **led a team of 16** at this now **$1.4B grocery delivery startup** during a break from school.
- Scaled the seller marketplace platform by **individually onboarding 70+ local stores**; established partnerships with 5+ retail chains.
- Managed a fleet of **55+ riders**; hired a customer support team of six; reached a scale of 1900+ orders/week before pivoting to Zepto.

PERSONAL PROJECTS

ClaimFinder ($500 in seed funding + acceptance into VT's startup incubator)
- Worked on a platform helping search **unclaimed property** (lost property) from state treasury websites, prototyping + research..
- **Award:** First Runner Up, VT Apex Center for Entrepreneur's KickStart Startup Pitch Competition.

CancerGeSe
- Built a **machine learning** model in computational biology to identify bespoke chemotherapy drugs based on patients' DNA genetic data.
- **Awards**: Finalist, IRIS Science Fair (**Top 100** in India, Round for Intel ISEF); Bronze, Indian Science and Engineering Fair (**Top 70** Nationwide)

EYEsafe.ai
- Developed a non-invasive **deep learning** model for early-stage diagnosis of eye conditions such as glaucoma, diabetic retinopathy.
- **Award**: Winner, IIT Guwahati TechExpo (**1st/ 1000**+ entries)