Sohan Bhat

Frisco, Texas - sohanrambhat@gmail.com - sohan-bhat.github.io - github.com/sohan-bhat

Education

Heritage High School, Frisco, Texas Class of 2029
Sophomore. Current coursework: AP Calculus BC, AP Computer Science A, AP Chemistry, AP Physics 1.

Research

LHD: Early detection of silent training failures in neural networks 2026
ISEF research project, in progress. A monitor that tracks per-layer signals during training, detects silent failures such as frozen layers and dead units within a few epochs, names the faulty layer and its likely cause, and halts the run. Research proposal github.com/sohan-bhat/halt

Projects

SignNet 2026
A convolutional neural network written from scratch in NumPy, with no PyTorch and no autograd. Every layer's forward and backward pass is hand-written. Classifies 43 classes of German traffic signs at 90.06 percent test accuracy, with a live demo that runs the network in the browser. signnet-cnn.netlify.app github.com/sohan-bhat/signnet

Wobbl 2026
A simulation toolkit that lets AI coding agents run engineering simulations, such as stress, heat and circuit analysis, and check the results. Published on PyPI and npm. Built with CalculiX, gmsh and ngspice. sohan-bhat.github.io/wobbl github.com/sohan-bhat/wobbl

Oopsy 2026
An undo tool for the terminal. It snapshots files, git state and Postgres data right before a destructive command runs, so the damage can be reversed with one command. Written in Go and installable through Homebrew and Scoop. sohan-bhat.github.io/oopsy

Taro 2026
A voice assistant for Google Meet. It carries out the action items from the meeting, such as posting to Slack and filing GitHub issues. Built with TypeScript, Next.js and Gemini. github.com/sohan-bhat/taro

VacantCourt 2025
An Android app that runs an on-device model to spot players on a court, paired with a website that shows which local courts are free. Built with Kotlin, TensorFlow Lite and React. github.com/sohan-bhat/VacantCourt

Experience and Activities

Programmer, FRC Team 2714
Java for the robot, mainly autonomous routines and Limelight vision. Fort Worth District winner, 2025 and 2026.

USACO competitive programming
Competitive programming in C++. First contest January 2027.

Skills

Languages: Python, Java, Go, TypeScript, JavaScript, Kotlin, C++
Frameworks and tools: NumPy, React, Next.js, Node.js, Express, PostgreSQL, Git and GitHub, CalculiX, gmsh, ngspice