SANJIT BHAT

Aspiring Researcher & Socially Conscious Tech Enthusiast

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☑ U.S. Citizen — Eligible to work in the U.S. with no restrictions

EXPERIENCE

Research Scientist Intern
Gradient Technologies

📅 January 2021 – Present   ⚲ Boston, MA

- Implementing and analyzing **crypto primitive** in **Python** and **C++** to distribute **secure enclave root of trust** across multiple parties

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Software Engineering Intern
RetailMeNot

📅 May 2020 – August 2020   ⚲ Austin, TX

- Deployed **Kubernetes Vertical Pod Autoscaler** to **AWS** clusters
- Ran **autoscaling** experiments using custom **Rust** app and **CD pipeline**
- Developed **organization-wide best practices** for autoscaling

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Undergraduate Researcher (advisor Hovav Shacham)
The University of Texas at Austin

📅 January 2020 – Present   ⚲ Austin, TX

- Working on **formally verifying eBPF**, a core part of **Linux Kernel**
- Applied **signal processing** techniques on **JavaScript Web Audio API** to construct **indirect timers** that undermine **browser security**

Student Researcher (advisors Srini Devadas and Aleks Mądry)
MIT Program for Research in Math, Engineering, and Science (PRIMES)

📅 January 2017 – August 2019   ⚲ Cambridge, MA

- Studied website **information leakage** and designed state-of-the-art **deep learning** model that exploits multi-modal sequence data
- **First-author** of paper **published** in Privacy Enhancing Technologies Symposium — top **security and privacy** conference

PROJECTS

Multithreaded and Concurrent Web Server in Rust

📅 May 2020

- Architected **concurrency model** to use **Rust thread safety** features
- Implemented **database** to **asynchronously** handle **XMLHttpRequests**
- Evaluated **scaling performance** and deployed **unit tests** in **CD pipeline**

Collaborative Music Synthesis

📅 February 2019

- Enabled **multiple users** to join together and **synthesize music** in **real time** using laptop webcams as instrumental interfaces
- Integrated **OpenCV**, **Google Firebase**, and **JavaScript** for **gesture recognition**, **synchronized databases**, and **music generation**
- Won **first place** at Blueprint — **MIT's premier high school hackathon**

EDUCATION

B.S. in Computer Science (**Turing Scholars** *Honors* **Program**)
University of Texas at Austin

📅 May 2023

Key Coursework:
- **Systems/Security**:
  Grad Computer Security
  Grad Systems Verification
  Grad Cybersecurity Law & Policy
  Honors Concurrency
  Honors Operating Systems
  Honors Computer Architecture
- **Misc**:
  Honors Data Structures
  Honors Linear Algebra
  Honors Discrete Math

GPA: 3.93/4.0

TECHNICAL SKILLS

Languages: Python (5/5), C/C++ (4/5), Java (4/5), Rust (3/5), Go (3/5), Verilog (3/5)
Tools: Z3, Kubernetes, TensorFlow

TEACHING

- **TA**: *Honors* Intro to CS Research   2021
  Instructor: Calvin Lin (UT Austin)
- **TA**: Computer Architecture   2020
  Instructor: Sid Chatterjee (UT Austin)
- **Lead Mentor**: Security Directed Reading Program, UT Austin Turing Scholars   2020

AWARDS

- **Ehren Kret Endowed Scholarship**
  UT Austin Computer Science   2019, 2020
- **Scholar**
  Regeneron Science Talent Search   2019
  - Nation's oldest and most prestigious science and math competition
- **First Place**
  MIT Blueprint Hackathon   2019
  - MIT's premier high school hackathon
- **Semifinalist**
  Siemens Competition   2017
  - Premier science research competition
- **Gold Level**
  USA Computing Olympiad   2016
  - Nation's most prestigious high school competitive programming competition