Suhel Keswani

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EDUCATION

Georgia Institute of Technology   **Aug 2021 – May 2025**
B.S Computer Science, Minor in Music - 3.92 GPA, Faculty Honors   *Atlanta, GA*

- Threads (Areas of Concentration): Devices, Media
- Activities: Jazz Combos - principal guitarist & soloist, Georgia Tech XR – VR Application Developer
- Selected Coursework - Computer Audio; Computer Networking; Design & Analysis of Algorithms; Computer Graphics; Computer Systems & Networks

EXPERIENCE

Grokker ↗   **May 2023 - Aug 2023**
Software Engineering Intern   *San Jose, CA*

- Architected, developed, and deployed high-performance event-driven microservice using Apache Kafka, Node.js, and MongoDB to process 60M+ messages annually from ∼10k users
- Iteratively refined microservice to drive high throughput and be highly scalable with caching, querying, and algorithmic optimizations
- Collaborated closely with engineering leadership to outline and execute multi-stage production deployment plan, including migrations of 400K+ records and rebuilding customer-facing front-end experience
- Worked in Agile (Scrum) environment, contributed technical documentation, and adhered to CI/CD pipeline

Georgia Tech VIP Program - Robotic Musicianship ↗   **Aug 2022 - Dec 2022**
Undergraduate Researcher   *Atlanta, GA*

- Developed procedural music composition patch in Max/MSP utilizing Markov Chains on MIDI data
- Worked with Dr. Gil Weinberg on Georgia Tech's world class robotic Marimba player, Shimon

Santa Clara University Laptop Orchestra (SCLOrk) ↗   **July 2020 - Oct 2020**
Research Intern   *Santa Clara, CA*

- Edited, optimized, documented, & published Frequency Modulation (FM) synthesis double bass synthesizer model definition with Dr. Bruno Ruviaro to SCLOrkSynths code repository, an official SuperCollider extension

PROJECTS

Votr ↗

- Won 3rd place in the NSA Secure Code challenge at Georgia Tech's 2021 HackGT hackathon
- Created a proof-of-concept for secure & accessible online voting through blockchain-backed ledger to maintain an immutable & anonymous record of verified ballots
- Developed a web-app to interface with custom Python blockchain data-structure using React.js, Django REST Framework, HTML, & CSS

Audio Spectral Analysis and Signal Processing Tool ↗

- Realtime audio spectral analysis and graphical frequency band display on mp3 & wav files through Fast Fourier Transformation (FFT) on discrete signal chunks using Java, Beads library, and Processing (IDE)
- High pass, low pass, and bandpass filters with toggles to manipulate signal
- Dynamically computes and resynthesizes strongest frequency from signal
- Displays rhythmic beats through peak detection

Chord Crafter ↗

- Developed software instrument with SuperCollider to convert inputted standard chord notation into MIDI data for real-time external audio synthesis in DAWs
- Intuitive GUI and algorithmic harmonic analysis allows for notation of chords to the thirteenth scale degree with inversions

SKILLS & TECHNOLOGIES

JavaScript, Java, Python, C/C++, Sound & Music Computing, Audio DSP, Max/MSP, OpenGL, Unity, Processing (IDE), Apache Kafka, Node.js, React.js, MongoDB, Django, Firebase, HTML/CSS, Figma, Git, ARM Assembly