Sebastian James

Stanford University Class of 2022

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CV Objective

I am a senior majoring in Music with a concentration in Human Computer Interaction at Stanford University. I am a dedicated student and have studied Music, Biology and Chemistry, and Computer Science. I have experience in C and Assembly programming on a bare metal system, strong proficiency in C++ software development, full stack web and mobile development with the MERN stack, and bio-signal processing and analysis with Python. I have also spent time working in a laboratory environment conducting electroencephalography studies. I am passionate about a career in the intersection of software engineering, medicine, and design focused thinking.

Education

Stanford University (2018–2022)
BA Music in Human Computer Interaction
GPA: 3.6/4.3

Capstone Topic: Sonification of Human Vital Signs for Auditory Feedback of Bio-Data

Work Experience

Bio-Signal Sonification Software Development, Stanford, CA
September 2021 – present

- Independent development of bio-signal sonification software with C/C++ and ChucK on a Raspberry Pi system.
- Processing real-time heart rate, blood pressure, temperature, and pulse oximetry data into a music sonification algorithm.

CellResearch Corp, Singapore
Cross-Platform Mobile App Developer, Stem Cell Research & Business Development
June 2021 – October 2021

- Solo development of a cross-platform mobile app for CALECIM®, a consumer cosmeceuticals division of CellResearch Corp.
- Used React Native, Google Maps API, and Shopify API to create a mobile app for consumers and physicians.
- Literature research in stem cells and other regenerative therapies to aid business development and experimental drug certification.

International Medical Aid, Mombasa, Kenya
Medical Aid Worker and Intern, February 2021 – March 2021

- Medical Aid worker at Coast General Teaching and Referral Hospital in Mombasa, Kenya.
- Specialized in the Surgical, Internal Medicine, and Emergency Medicine Departments.

Stowe Family Practice, Stowe, VT
Medical Intern, May 2020 – September 2020

- Medical Intern at Stowe Family Practice.
- Involved taking vitals, histories, and shadowing physicians in full-spectrum family medicine.

Stanford Students in BioDesign, Stanford, CA
Cross-Platform Mobile App Developer, January 2019 – June 2019

- Assisted in finishing and publishing a mobile app to the *iOS App Store* to aid Veterans in finding appropriate healthcare and support.

Stanford Students in BioDesign, Stanford, CA
Brain-Controlled Interface Research and Development, January 2019 – June 2019

- Researched models for implementing a simple brain-controlled interface (BCI).
- Used Python and the MNE package to read, analyze, and process electroencephalography (EEG) datasets to develop a BCI model.

University of Vermont, Burlington, VT
Violin Instructor, August 2017 – June 2018

- Employed by the University of Vermont to teach violin to college freshman as part of an initiative to examine the impact of musical education on the developing brain.
- Worked in the Wellness Environment initiative.

Research

NeuroMusic Lab, Stanford University, Stanford, CA
Researcher and co-author, September 2018 – September 2021

- Worked in the NeuroMusic lab at the Center for Computer Research in Music and Acoustics.
- Used electroencephalography (EEG) to study musical improvisational duet paradigms.

University of Vermont, Burlington, VT
Researcher, August 2017 – June 2018

- Research with Dr. James Hudziak and his team at the University of Vermont Medical Center.
- Studied the effects of musical education on cortical thinning in the brains of adolescents ages 11-21.

Volunteer Work

Cardinal Free Clinic, Stanford University, Stanford, CA
Lab Assistant, September 2018 – Present

- Medical volunteer at the Cardinal Free Clinic, a Stanford University affiliated free clinic in the San Francisco Bay Area.
- Assisted in the lab at Cardinal Free Clinic.
- Navigated an Electronic Medical Record system (EMR) to manage patient appointments, upload patient results, and coordinate with patients, physicians, and nurses.

Honors

National Honor Society Member
November 2017 – Present

- Election to this prestigious national institution is based upon the faculty's recognition of outstanding qualities of scholarship, leadership, service, and character.

Relevant Course Work

Stanford University:

- Programming Abstraction and Recursion: C++
- Computer Systems and Bare Metal Programming: C, ASM, Unix
- Computer Generated Sound Synthesis
- Programming Methodology: Java
- Audio-Visual Software Design with ChucK, C#, and Unity
- Biology: Physiology, Biochemistry, Molecular and Cellular Biology
- Physics: Mechanics, Electricity and Magnetism
- Neuroscience, Neural Oscillations, and Hyper-scanning with EEG
- Electrical Engineering: Circuits and Filters
- Mathematics: Linear Algebra and Multivariable Calculus
- Spanish Language: 4 Years
- Music: Theory, History, Analysis, Composition

Key Skills

- C and ASM
- C++
- Python
- Unix/Linux
- JavaScript/TypeScript
- React/React Native
- Node.js
- MERN Full Stack Development
- HTML and CSS
- Git
- Spanish
- Interpersonal Communication
- Public Speaking
- Design Thinking
- Adaptability