Sean E. Gentry

sean.e.gentry@vanderbilt.edu | (571) 497-1019 | www.linkedin.com/in/seangentree/ | https://seangentree.github.io/portfolio/

EDUCATION

Vanderbilt University Nashville, TN
B.E. Mechanical Engineering | Minor: Computer Science *Expected May 2027*
Activities: Vandy Brazilian-Jiu-Jitsu, Questbridge Scholars Network, Theta Tau, VADL Rocket Team GPA: 3.96
Relevant Coursework: Mech. Engineering Design, Circuits, Thermodynamics, Dynamics, Mechatronics, Data Structures

PROFESSIONAL EXPERIENCE

Vanderbilt University Department of Computer Science On-site | Nashville, TN
Undergraduate Researcher September 2024 – Present

- Invited to work on the development of an internal tool for the Vanderbilt Computer Science Department
- **Implement SSO and gain SSL certificate** for the front-end of internal tool to uphold the principle of least privilege and ensure only authorized users are allowed access
- **Created API endpoints for** and implemented graph visualization on the front-end using **TypeScript**

Vanderbilt University Department of Computer Science On-site | Nashville, TN
Teaching and Grading Assistant *August 2024 – December 2024*

- Assisted with the CS1101 course grading, holding office hours weekly, and grading homework submissions and exams
- Utilized **problem-solving, teamwork,** and improved my proficiency with **Java**
- Collaborate under professor with fellow teaching assistants to lecture in optional recitation sessions for tougher concepts

Robotics and Autonomous Systems Laboratory (RASL) at Vanderbilt University Remote | Nashville, TN
Undergraduate Research Assistant *May 2024 – October 2024*

- Analyze and code kinematic behavioral data of Mild Cognitive Impairment (MCI) patients and non-MCI patients to develop systems in human activity recognition with machine learning
- **Collaborate in a team of 2** to manually label the dataset of 15 participants' videos using BORIS (Behavioral Observation Research Interactive Software) software. Label 70+ videos of video footage for training and testing
- Built a smaller-scale **LSTM RNN** for an open-sourced human activity recognition dataset with an average of **90% accuracy** using the Keras library of Tensorflow, Pandas and NumPy

LEADERSHIP & PROFESSIONAL DEVELOPMENT

VADL: Rocket Team – *Member* *October 2024 – Present*

- Collaborated with multidisciplinary team to design and develop high-performance aerospace systems for competitive aircraft.
- Shadowed senior lead designers to gain expertise in **aerospace design**, **mechanical systems integration**, and **structural analysis**.
- Conducted **precision welding** and **component fabrication**, ensuring compliance with NASA-grade safety and performance standards.

Theta Tau: Professional Co-Ed Engineering Fraternity, Iota Delta Chapter – *Brother* *April 2024 – Present*

- Serve on the **internal court system**, ensuring adherence to organizational policies and fostering accountability among members.
- Participate in recruitment efforts, evaluating and engaging with **150+ applicants per semester** to select candidates aligned with the fraternity's standards.
- Organize and contribute to **community service initiatives**, supporting local causes and enhancing the fraternity's community impact.

Tennessee Louis Stokes Alliance for Minority Participation – Participant *March 2024*

- Provided research opportunities, mentoring, annual research conferences, and a **$1500 stipend** to fund summer research.
- Selected from a competitive pool of **over 1000** applicants to attend and present at the statewide research convention

PROJECTS

Widebody Chevy Camaro – Electric Motor Powered Car *October - December 2024*

- Design, build and test an electrically powered motor vehicle using **SolidWorks** and **AutoCAD**
- Laser cut 1/8" plywood and manual assembly of circuitry, chassis, and frame hardware from mini hardware kit
- **Placed 1/40 in Best Style** category in team competition

SKILLS AND CERTIFICATES

Skills: Blender, Solidworks, Machine Learning, Java, Python, C++, HTML, CSS
Honors & Awards: TLSAMP Participant (2024), QuestBridge National College Match Scholarship (2022, 1,755 matches out of ~18k students);
Certifications: Biotechnology & Engineering certificate (2023), SolidWorks CSWA certification (2024)
Interests: 3D modeling, football, machine learning, MMA, music, programming, volleyball