Jake Kerns

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EDUCATION

Virginia Tech College of Engineering **Blacksburg, Virginia**
B.S. Mechanical Engineering focus in Robotics and Mechatronics| ***GPA: 3.7/4.0*** *Expected Graduation May 2028*

SKILLS

Technical Skills: C++ | Java | Fusion 360 | Modeling | Prototyping | Dimensioning | Drafting
Soft Skills: Public Speaking | Collaboration | Group Work | Problem-Solving

PROJECTS

"Stringless" Guitar, New Instrument Project *September 2024 – November 2024*

- Conceptualized and designed a distance-sensing guitar as part of a new musical instrument project, aimed at innovating traditional guitar mechanics
- Utilized Fusion 360 to create detailed 3D models and simulations for the guitar's structure and components
- Applied advanced 3D printing techniques to fabricate custom parts, ensuring precise fit and functionality
- Integrated Arduino microcontroller to enable real-time distance sensing, translating finger positions into sound manipulation without the use of traditional strings

Large-Scale Christmas Tree, Community Service Project *October 2023 – December 2023*

- Contributed to the initial design and schematic planning for a large-scale community Christmas tree
- Led the engineering and implementation of the entire wiring system, ensuring safe and efficient installation of lights and decorations
- Coordinated with team members to organize and execute the project, maintaining alignment with community goals

Arduino-Based Miniature Greenhouse, Agricultural Engineering Project *September 2022 – November 2022*

- Designed and developed a fully functional miniature greenhouse system incorporating Arduino-based automation for environmental data collection
- Programmed C++ code to regulate temperature, humidity, and light levels, optimizing plant growth conditions
- Engineered and built all physical components of the greenhouse structure, ensuring durability and proper ventilation

WORK EXPERIENCE

Virginia Tech Dining Services **Blacksburg, Virginia**
Student Worker *September 2024 – Present*

- Prepared and cooked a variety of menu items in a high-volume, fast-paced dining environment serving over 7,000 students daily
- Operated kitchen equipment and maintained high standards of cleanliness and food safety in accordance with health regulations

SCHOOL INVOLMENT

Virginia Tech Competitive Robotics Organization SEC Mechanical team member *January 2025 – Present*

- Attend team meetings and contribute to mechanical design and strategy for competitive robotics events
- Focusing on the mechanism design, modeling, and rapid prototyping aspect of the team robot for mechanical implementation
- Team oriented design work, designs considering other team constraints (electrical/hardware and software needs)

ASME Virginia Tech Member *January 2025 – Present*

- Active Member, attend meetings and professional development events
- Navigate AMSE's national tools to become a better engineer outside the classroom and labratory

COMMUNITY SERVICE

Habitat for Humanity **Richmond, Virginia**
Team Lead *October 2022 – April 2024*

- Led volunteer groups of 5+ individuals, managing team dynamics and ensuring efficient task completion on construction sites coordinating with firms and nonprofits to host guest speaker events, showcasing their contributions
- Accumulated 110+ hours of service, coordinating efforts to build homes and improve living conditions for underserved communities
- Trained and mentored new volunteers, providing guidance on construction techniques, safety protocols, and team collaboration