Ayush Karkare

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Education

Purdue University *West Lafayette, IN*
Bachelor of Science in Aeronautical and Astronautical Engineering ***May 2027 (Expected)***
Minor: Certificate in Entrepreneurship and Innovation GPA: 3.96 / 4.00
Dean's List and Semester Honors
***Relevant Coursework*:** C Programming, Intro to Aero Design, Thermodynamics I, Aeromechanics

Experiences

Purdue Formula SAE *West Lafayette, IN*
Team Member ***January 2024 - Present***

- Collaborated with a multidisciplinary team to integrate aerodynamic components with vehicle systems, focusing on optimizing performance through airflow analysis and design improvements
- Guided in hands-on aerodynamic testing and simulation processes, acquiring skills in advanced computational tools, and contributing to data-driven design decisions to enhance vehicle efficiency and performance

Boilerexams *West Lafayette, IN*
Relations Team Member ***March 2024 – Present***

- Cooperated with university directors and academic staff to explore and establish partnerships, showcasing the value and benefits of the software in improving the educational experience
- Overlooked the end-to-end process of software implementation projects with partner universities, from initial contact to deployment and feedback collection

Bentley Systems *Chester Springs, PA*
Student Intern ***July 2022***

- Explored and delved into over 10 career paths within the software development domain
- Acquired deep insights into Bentley Systems' pivotal contributions to the software development industry, recognizing its innovative solutions and impact on global infrastructure projects

Design Projects

Electric Bike Conversion Project

- Designed and modeled a custom housing and motor assembly for an electric bike conversion using Siemens NX, incorporating standard parts from McMaster-Carr into the design to ensure compatibility and streamline assembly, demonstrating expertise in CAD and component selection
- Prototyped the designed components using a 3D printer, iteratively testing and refining the fit and durability, ensuring compatibility with the bike's existing frame and mechanical systems
- Integrated electrical components through the VESC tool, configuring and programming the motor controller to achieve optimal performance and reliability, demonstrating a hands-on approach to electrical engineering principles

Biophotovoltaics Product Research and Development ***November 2023 - Present***

- Presented Biovolt, a sustainable energy solution for farmers, to a panel of judges, securing $2,500 for further product development through the Purdue University Moonshot Pitch Challenge and PA Governor's STEM Competition
- Partnered with Purdue Innovates, lawmakers, a team of multidisciplinary engineers, and farmers to refine the concept of Biovolt, ensuring its feasibility and market potential

VEX Robotics Team Designer and Builder ***September 2016 – May 2023***

- Designed and contributed to the ideation, development, and design of robot components using technical drawings, prototypes, and CAD Software to improve the functionality of the robots
- Recognized with the prestigious Design Award at the World Championship, acknowledging excellence in the ideation, development, and design of robot components, highlighting a high level of expertise and innovation in the field

Skills

- ***Technical* –** Fusion 360, Autodesk Inventor, Siemens NX, C++, Microsoft Office, Arduino Programming, Python, MATLAB
- ***Languages* –** Hindi (Native Proficiency), German (Limited Working Proficiency)
- ***Certifications* –** ServSafe Certified Food Manager License (2022), Eagle Scout (Class of 2020)