Check out my website!

Tanaka Chonyera

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EDUCATION

Michigan State University (MSU) Honors College — **East Lansing, MI**
Major: B.S. Mechanical Engineering, Aerospace Concentration — *September 2020 - May 2024*
GPA: 3.5/4.0, $140,000 Scholarship from school

EXPERIENCE

First Solar — **Perrysburg, OH**
Development & Process Engineering Intern — *May 2023 – August 2023*

- Validated and optimized a novel ultrasonic welding process for solar panel modules, effectively preventing potential damage during automated manufacturing.
- Utilized JMP statistical analysis software to analyze and interpret critical testing data, enabling data-driven decision-making for process enhancements.
- Aided in assembly and testing of new tandem solar modules, incorporating monocrystalline and thin film technology for improvement in conversion efficiency.
- Provided support for adhesive sample prep, solar module builds and tool maintenance.

National Society for Black Engineers (NSBE) — **East Lansing, MI**
MSU Chapter Telecommunications Chair — *September 2022 – Present*

- Led social media rebrand transitioning from fragmented naming system to a streamlined, unified approach.
- Redesigned chapter website (nsbemsu.org), ensuring user friendly design and up-to-date content.
- Solicit sponsorships and support from industry-leading companies like SpaceX to support chapter.

Fraunhofer USA — **East Lansing, MI**
Applied Research & Additive Manufacturing Intern — *May 2022 – May 2023*

- Pioneered new method to fabricate boron doped diamond (BDD) electrodes. Sold over $15,000 worth of products using new method with 57% profit margin (previously sold at cost).
- Using Siemens NX, designed and 3D printed crucial new components utilizing rapid design iteration that drastically improved and standardized fabrication and quality control of BDD electrodes.
- Fabricated carbon fiber microelectrodes which successfully measured dopamine in a rat's brain aiding in Parkinson's research at the Institute for Quantitative Health Science & Engineering at MSU.
- Contributed to research published in Biosensors journal of the Multidisciplinary Digital Publishing Institute (MDPI) for work with diamond electrodes.

Facility For Rare Isotope Beams (FRIB) — **East Lansing, MI**
Mechanical Design & Nuclear Physics Research Intern ($4,000 Stipend Awarded) — *September 2021 – April 2022*

- Reproduced High Voltage Divider for use in Collinear Laser Spectroscopy Experiment identifying laser spectrum of radioactive nuclei at the BEam COoler and LAser (BECOLA) facility at FRIB.
- Analyzed and processed data from high voltage divider using Python to compare performance with stock high voltage divider from the National Metrology Institute of Germany.
- Created draft of high voltage divider for cheaper reproduction and use in other facilities at FRIB.
- Presented cross-disciplinary team research and divider function at undergraduate research forum.

Michigan State University Formula Racing — **East Lansing, MI**
Aerodynamics and Powertrain team member — *September 2021 – April 2022*

- Machined components for radiator mounts and suspension systems using conventional machining equipment (manual mills and lathes) for new monocoque design. Assessed parts for quality control.
- Researched air filter alternatives to support quality improvements in air-to-fuel ratio, power delivery and combustion efficiency. Documented and communicated findings to team leads.

Maru-a-Pula Rocketry and STEM Club — **Gaborone, Botswana**
Rocketry Club Founder, Chief Engineer, and Product Architect — *February 2018 - July 2020*

- Designed and built high powered solid-propellant rocket for STEM Competition. Sourced all raw materials, managing material handling and processing, and made the fuselage and propellant utilizing engineering first principles. Won competition and acquired $10,000 grant from school to improve STEM facilities.
- Built an affordable solar powered generator with local farmers as the target market. Designed and constructed the solar energy collection array from locally sourced material and contractors.
- Placed 1st in Africa and Botswana in DTSV Eutelsat Star Awards (essay competition on satellites) winning trip to Paris and French Guiana to watch Rocket Launch. Featured on TV, radio, and news publications.