CURRICULUM VITAE

Tanaka Chonyera

Mechanical & Aerospace Engineer · Project Manager, Capital Projects, Eli Lilly · Founder, Dreamernaut Rocket Bootcamp

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HONORS & AWARDS

- **Letter of Recognition from the Governor of Indiana (2026):** signed by Governor Mike Braun on behalf of the State of Indiana and presented at the Sheridan Airport launch on September 25, 2026, for "supporting, educating, and inspiring the next generation of Hoosier STEM graduates" through the High-Power Rocket Bootcamp.
- **NSBE 25 Under 25 Honoree (2026), National Society of Black Engineers:** named to the 25 Under 25 Class of 2026 and received the honor at the Golden Torch Awards, 2026 NSBE Annual Convention, Baltimore (March 21, 2026).
- **Eli Lilly Rise Recognition, "Deliver" (October 2026):** from Eric Dozier, Executive Vice President and Chief People Officer, for Global Day of Service support: "your commitment does not go unnoticed."
- **1st Place in Africa, 1st Place in Botswana, DStv Eutelsat Star Awards (2018):** the first-ever Botswana win in the essay category, for an essay on better uses of satellites, named Best Overall Essay 2018. This was the eighth and final edition of the competition, which was open to students aged 14 to 19 in 42 countries and drew 8,000+ entries over its history. Announced February 2019; judged by a panel chaired by European Space Agency astronaut Paolo Nespoli, who said the jury was "not quite sure if he's crazy or the next Nobel Prize winner" and that they "put our money on the second one." Prize: a trip to Paris and French Guiana to witness an Ariane 5 launch (January 2020). Eutelsat published a photo of him at the launch of Ariane 5 flight VA251 in Kourou.
- **Ranked the #1 flyer by flight count at LDRS 44 (2026)**, the largest high-power rocketry launch in the world (852 flights from 576 registered flyers across 41 states and 3 countries): 34 flights of student-built rockets flown under him as Flyer of Record, more than double second place.
- **Lebone STEM Derby, South Africa (2018):** gold medal for a solid-propellant rocket built from scratch as team captain; Maru-a-Pula placed first overall against four other schools. **African Leadership Academy STEM Derby (2019):** designed and built a parabolic solar concentrator; the school was runner-up against two other schools.
- **Certificate of Achievement, Science Olympiad (Informatics), April 2018:** Botswana Science Association and Maru-a-Pula School, International Junior Science Olympiad selection.
- **Service Award, Botswana Society for the Prevention of Cruelty to Animals (BSPCA), August 2019:** Maru-a-Pula School Service.
- **Wielenga Research Scholar, Michigan State University (2022):** $4,000 stipend for high voltage divider work at the Facility for Rare Isotope Beams.
- **$140,000 in MSU merit-based scholarships** and the **$1,250 Boeing Scholarship** for engineering excellence.

PRESS & MEDIA

- **Indianapolis Star, October 2026:** feature "Meet Tanaka Chonyera, the man aiming to inspire next generation of rocket scientists" by Christine Tannous, with a 20-photo gallery and a video; the feature syndicated by Yahoo and MSN and the video by Yahoo; and "Rocket Man," a two-page spread in the November 1, 2026 print edition.
- **WTHR (NBC Indianapolis), February 2026:** broadcast and digital feature "Indianapolis engineer launches free rocket boot camp for kids" with a companion video segment; syndicated by Yahoo and 97.5 WCOS (iHeart) Morning Rush.
- **The Week Junior, April 2026:** profiled in the People section of the national weekly news magazine.

- **Fox59 Indy Now, June 15, 2026:** segment with the City of Fishers, cross-aired on CBS4 Indianapolis.
  Eli Lilly internal company news: featured during Volunteer Week for community STEM mentorship.
- **Eli Lilly, September 2026:** featured the bootcamp as Project 01 of 210 in its Global Day of Service campaign on LinkedIn and Instagram, and used Tanaka as the thumbnail of its company-wide Global Day of Service video.
- **Reddit:** millions of views across r/space, r/pics, r/rocketry, r/MadeMeSmile, r/AerospaceEngineering, and r/UpliftingNews from 10+ months of weekly posting as u/TanakaChonyera, including nine posts above 100,000 views and three above 380,000. One post brought 27 sign-ups in 48 hours, and posts reached #1 on r/Indiana and r/rocketry.
- **Botswana Guardian (national newspaper):** "Botswana's Future Astronaut is Born" (February 2019) and "DStv Eutelsat Award's Botswana winner sets Africa's sights on space" (February 2020).
- **Space in Africa, March 2019:** "18-year-old Tanaka Chonyera wants to lead Zimbabwe to space."
- **Coverage of the DStv Eutelsat win, 2019:** Mmegi (online, February 2019, and its print results page, January 2019), News Ghana and Botswana Unplugged (February 2019), Mwananchi, Tanzania (March 2019); interviews on BTV (Botswana national television), DStv, and Yarona FM radio.

SPEAKING & TALKS

- **Franklin College, Franklin, IN (October 8, 2026):** guest speaker in Professor Miranda Carter's public relations class on the High-Power Rocket Bootcamp, capital project management at Eli Lilly, and the "I can do anything" mindset; brought student-built rockets for the class. Seven students sent thank-you emails, and the professor's written debrief said "you know how highly the class has spoken of you collectively."
- **Enlace Academy (May 7, 2026):** addressed students on STEM, aerospace careers, and the High-Power Rocket Bootcamp at a bootcamp for 75 students.
- **Broadhurst Primary School, Gaborone (May 24, 2019):** school assembly talk to students and parents on the DStv Eutelsat win and rocketry.

FOUNDING STEM & ROCKETRY PROGRAMS

Founder & Lead Instructor, High-Power Rocket Bootcamp
August 2025 - Present

Dreamernaut Rocket Bootcamp · Indiana

- Founded and run a free high-power rocketry program: **362 students** across 10 bootcamps (August 2025 to September 2026), plus 1 in progress, **390+ participants** trained, **335 rockets built** (278 student, 57 volunteer), and **170+ launched** to altitudes up to 5,000 feet
- Raised **$161K** from MEPI (Minority Engineering Program of Indianapolis; $80K, including a $40K Cummins grant), **Lilly Social Impact** ($75K for Lilly's 2026 Global Day of Service) and Purdue University (funder of the Indiana Black Expo cohort); spent **$159K** on the program
- Cut the cost per student **60%**, from $1,227 at the first bootcamp to **$490** at the most recent, lowering barriers of entry so the same funding reaches more kids; average cost per student, one student per rocket: $564 (materials used, 263 students across 8 bootcamps); scaling one cohort to 150 kids for Lilly's 2026 Global Day of Service was a P10 stretch target that forced process improvements and brought the cost down
- Led the rocket build for Lilly's 2026 Global Day of Service at Hattie B. Stokes Elementary in Lebanon, IN, with 124 volunteers on build day for 145 students, and delivered the $75K program under budget at $72.7K
- Designed a tiered train-the-trainer model that let one lead oversee **150 simultaneous builds** with 25 volunteers trained in four full-day sessions
- Secured the Hamilton County Airport Authority's approval to close Sheridan Airport for a 150-kid launch, with signed landowner permissions and an FAA certificate of waiver through Indiana Rocketry

- Serve as Flyer of Record, responsible for every student rocket being built correctly and flying safely under NAR safety codes and FAA airspace rules
- Run every build and launch day under OSHA's hierarchy of controls, applying the construction safety standards and protocols from managing a $150M+ capital project at Eli Lilly
- Wrote the build-day HSE safety plan for 150 students (task-specific hazard assessment and PPE plan), approved by Lilly Lebanon's HSE Senior Director
- Designed the curriculum (aerodynamics, propulsion, recovery systems, FAA airspace coordination) and built a corps of **174+ adult volunteers**, including engineers, physicians, and industry leaders; trained **56 volunteers** to build their own rockets
- Expanded to 6 Indiana communities and 10+ partner institutions, including the Indiana State Museum, the City of Fishers, Hattie B. Stokes Elementary, and Girl Scouts of Central Indiana
- Ran a sold-out bootcamp for the Indiana State Museum's Space Day (July 2026); participants rated it 11/10
- Ran a booth for K-12 school groups at the Indiana State Museum's Tinkerfest (September 18, 2026) after the museum invited the bootcamp back
- Teach MEPI's ninth-grade group, including a drone flight session (March 2026), and won MEPI board approval to use a 13-foot rocket as the group's capstone project
- Ran a bootcamp for 24 students at the Indiana Black Expo Youth Leadership Summit on July 17, 2026, funded by Purdue University

Founder & Chief Engineer, Maru-a-Pula Rocketry and STEM Club **February 2018 - July 2020**

Maru-a-Pula School · Gaborone, Botswana

- Founded the school's first student-led rocketry program and built a solid-propellant rocket from scratch, from the propellant to the fuselage, using raw fuel and oxidizer from the chemistry department

BOOTCAMP COHORTS

- **Summer 2025**, Camp Dellwood, Indianapolis, 20 students, 20 student rockets: builds Aug 2, 9 and 16, 2025; launch Aug 24, 2025, Muncie
- **Fall 2025**, Park, Indianapolis, 20 students, 20 student rockets: builds Nov 1, 8 and 15, 2025; launch Feb 8, 2026, Pence
- **Winter 2026**, Camp Dellwood, Indianapolis, 15 students, 15 student rockets: build Feb 1, 2026; launch Feb 8, 2026, Pence
- **Spring 2026, April 4 group**, Camp Dellwood, Indianapolis, 11 students, 11 student rockets: build Apr 4, 2026; launch Apr 19, 2026, Pence, during LDRS 44
- **Spring 2026, April 18 group**, Camp Dellwood, Indianapolis, 20 students, 20 student rockets: build Apr 18, 2026; launch Apr 19, 2026, Pence, during LDRS 44
- **Enlace Academy**, Indianapolis, 75 students, 3 student rockets (many students per rocket): build May 7, 2026
- **Indiana Black Expo Youth Leadership Summit**, Indiana Convention Center, Indianapolis, funded by Purdue University, 24 students, 12 student rockets (many students per rocket): build Jul 17, 2026
- **Indiana State Museum, Space Day**, Indianapolis, 12 students, 12 student rockets: build Jul 18, 2026; launch Aug 9, 2026, Muncie
- **City of Fishers**, Fishers Maker Playground, 20 students, 20 student rockets: build Aug 2, 2026; launch Aug 9, 2026, Muncie
- **Lilly Global Day of Service**, Hattie B. Stokes Elementary, Lebanon, 145 students, 145 student rockets: build Sep 24, 2026; launch Sep 25, 2026, Sheridan Airport
- **MEPI 9th Grade, in progress**, Indianapolis: November 2026 to May 2027

PROFESSIONAL EXPERIENCE

Project Manager, Capital Projects
June 2024 - Present

Eli Lilly and Company, Global Facilities Delivery · Indianapolis, IN

- Lead a **$150M+ capital capacity expansion** of warehouse and logistics infrastructure for one of Lilly's flagship therapeutics, from design through construction, commissioning, and qualification (C&Q)
- Direct the design, construction, and C&Q of the project
- Coordinate a peak construction force of hundreds on site against regulatory and quality milestones for FDA-regulated facilities
- Bid scopes of work, evaluate competing vendor proposals, and recommend contract awards
- Hold monthly governance reviews with the site head of the receiving business unit, translating engineering decisions into executive-ready risk and progress reporting and aligning capital partners on tradeoffs and recovery plans
- Built a meeting minutes template that Global Facilities Delivery adopted department-wide

Development & Process Engineering Intern
May 2023 - August 2023

First Solar · Perrysburg, OH

- Validated and optimized a new ultrasonic welding process for solar modules; JMP analysis of the test data drove the process changes that stopped automated manufacturing from damaging modules
- Supported assembly and testing of new tandem modules that combine monocrystalline and thin-film technology for higher conversion efficiency

RESEARCH EXPERIENCE

Applied Research & Additive Manufacturing Intern
May 2022 - May 2023

Fraunhofer USA · East Lansing, MI

- Developed a new method to fabricate boron-doped diamond (BDD) electrodes that cut production time by 40%, taking the product from selling at cost to **$15,000+ in sales at a 57% profit margin**
- Sold the electrodes to customers including the University of Chicago and the U.S. Navy
- Delegated work across the BDD fabrication team and trained new interns in electrochemical techniques
- Designed Siemens NX 3D-printed fixtures and an AutoCAD needle-growth template that standardized BDD electrode fabrication and quality control
- Ran long-term coating experiments on BDD microelectrodes using fast-scan cyclic voltammetry and impedance spectroscopy; acknowledged for experimental help in a 2023 *Biosensors* paper
- Tested BDD electrode response to dopamine, serotonin, and DOPAC, and characterized electrodes with electron microscopy
- Fabricated a carbon fiber microelectrode that measured dopamine in vivo for Parkinson's research at MSU's Institute for Quantitative Health Science & Engineering

Mechanical Design & Nuclear Physics Research Intern
September 2021 - April 2022

FRIB, Dr. Kei Minamisono's BECOLA team · East Lansing, MI

- Designed in Siemens NX and built a high voltage divider for collinear laser spectroscopy of radioactive nuclei at BECOLA, where ppm-level knowledge of beam energy is needed to extract nuclear structure information
- Held 30 kV stable to within 0.05 V (2 ppm) using the team's feedback system
- Analyzed the divider's output in Python to determine its ratio and compare it with a reference divider from Germany's National Metrology Institute
- Created a full technical draft of the divider for lower-cost reproduction and use in other FRIB facilities

ENGINEERING PROJECTS

Team Lead, Aerodynamic Body Design (Senior Capstone)
January 2024 - April 2024

MSU Solar Racing Team · East Lansing, MI

- Led the senior capstone team designing an aerodynamic, lightweight, manufacturable body for MSU's solar car; the cockpit design cut drag coefficient by 50%
- Made design decisions in Siemens NX and MATLAB, evaluated airfoil profiles in Xfoil, and justified them with fluid dynamics and boundary layer theory
- Owned deliverables comparing manufacturability against theoretical performance to guide future build cycles
- Earned a 4.0 in the capstone course

Self-Balancing Mini-Segway (ME 456) **Spring 2024**

Michigan State University · East Lansing, MI

- Tuned pitch and wheel-speed PID controllers in MATLAB/Simulink for a self-balancing robot (Arduino, IMU with a complementary filter), reaching a pitch settling time under 0.1 s with no overshoot

Aerodynamics & Powertrain Team Member, MSU Formula Racing (Formula SAE)

Michigan State University · East Lansing, MI

September 2021 - April 2022

- Machined radiator mount and suspension components on manual mills and lathes for the team's new monocoque car, and inspected parts for quality control
- Researched air filter alternatives for air-to-fuel ratio, power delivery, and combustion efficiency, and front wing designs that resist failure under aerodynamic load; documented findings for team leads

ALACOM Messaging App **2017**

Visual Basic .NET · Gaborone, Botswana

- Wrote a console messaging app and improved it through numbered releases, from version 0.5.6 to Update 1.7

PRESENTATIONS & RESEARCH CONTRIBUTIONS

- **Chonyera, T.**, Dockery, A., Koenig, K., and Minamisono, K. "Accurate High Voltage Measurement for Laser Spectroscopy." Poster, University Undergraduate Research and Arts Forum (UURAF), Michigan State University, 2022
- Dockery, A., **Chonyera, T.**, Koenig, K., and Minamisono, K. "Stable HV System for Laser Spectroscopy Measurements." *The Greensheet* 43, no. 10, Facility for Rare Isotope Beams, March 25, 2022
- Acknowledged for experimental help in: Gupta, B., et al. "In Vitro Biofouling Performance of Boron-Doped Diamond Microelectrodes for Serotonin Detection Using Fast-Scan Cyclic Voltammetry." *Biosensors* 13, no. 6 (2023): 576. doi:10.3390/bios13060576

LEADERSHIP

Chapter Secretary, Communications Chair **September 2022 - May 2024**

National Society of Black Engineers (NSBE), MSU Chapter · East Lansing, MI

- Rebranded the chapter's social media under @nsbemsu and redesigned nsbemsu.org; Instagram reach rose **38%**, membership **47%**, and interest in national convention attendance **121%**

STEM Connects Volunteer **2026 - Present**

Teach For America Indianapolis · Indianapolis, IN

- Matched by Teach For America Indianapolis with The PATH School at School 67 as a 2026-27 STEM Connects volunteer partner

Organizer, Bundles of Brightness **2017 - 2020**

Gaborone, Botswana

- Organized fundraisers and clothing and food drives for children in Botswana public schools

EDUCATION

B.S. Mechanical Engineering, Aerospace Concentration **April 2024**

Michigan State University (MSU), Honors College · East Lansing, MI

- GPA 3.5/4.0 · Dean's List
- Programming coursework: C++ and Python, data structures and algorithms, object-oriented programming

SKILLS & CERTIFICATIONS

- **Project delivery:** capital projects; design, construction, and C&Q oversight; vendor selection; governance and risk reporting; FDA-regulated facilities
- **Program leadership:** grant proposals and grant reports, HSE safety plans, FAA launch waiver coordination, volunteer training, single-day events for 145 students
- **Engineering tools:** Siemens NX, SolidWorks, AutoCAD, MATLAB, Xfoil, JMP, Python, C++
- **Engineering analysis:** aerodynamics, fluid dynamics, boundary layer theory, statistical analysis (JMP)
- **Lab, shop, and certification:** fast-scan cyclic voltammetry, impedance spectroscopy, electron microscopy, 3D printing, mills and lathes, Tripoli Rocketry Association and National Association of Rocketry Level 2
- **Languages:** English; Shona and French (limited proficiency)