Andrew Voss

803-201-8402 | andrewvoss8@gmail.com

Ex-SpaceX engineer with experience in education, entrepreneurship, philosophy, theology, and ministry.

Engineering Experience

Engineer II | SpaceX | Hawthorne, CA | May 2015-February 2020

- Led a team of 3 through multiple innovations in satellite manufacturing and analysis processes as SpaceX reinvented satellite design, manufacturing, and analysis
- Envisioned, created, and implemented an innovative structural analysis methodology that allowed for reusability of the Falcon 9 rocket - using first principles of physics to break free from a broken process that was as old as the space industry
- Created and implemented brand new technical methodologies for testing and analyzing SpaceX hardware for flight, documenting with technical whitepapers
- Standardized and automated company-wide analysis methodologies for consistency and efficiency
- Mentored and trained multiple new team members and was instrumental in their technical development and recruitment
- Analyzed and tested structures of Falcon rockets, Dragon 2 crew capsule, Starship Rocket, and Starlink satellite constellation at vehicle and sub-component level, collaborating across diverse departments

President | Vanderbilt Aerospace Design Laboratory | Nashville, TN | September 2012-May 2016

- 4x national champions at NASA Student Launch, each the culmination of a year of daily effort
- Led team to victory using a balance of technical and collaborative skills
- Coordinated complex and collaborative efforts between design, manufacturing, analysis, launch, report writing and presentation, engine development, safety, and community outreach

Researcher | Vanderbilt Lab for System Integrity and Reliability | Nashville, TN | Summer 2014-fall 2015

- Developed, manufactured, analyzed, and built a test rig for new elastomeric accumulator technologies

Researcher | Laboratory for Active Materials and Smart Sensors | Columbia, SC | Summer 2013

- Performed Electromechanical Impedance Spectroscopy and pitch-catch wave propagation tests on composite beams under load using piezoelectric wafer active sensors for Boeing R&D

Education and Honors

B.S. Mechanical Engineering | Vanderbilt University | Nashville, TN | August 2012-May 2016

- Mechanical Engineering GPA: **3.9/4.0**. Cumulative GPA: **3.7/4.0**
- Recipient of the McCleskey Honors Scholarship (merit)
- Winner of the 2016 Vanderbilt School of Engineering Leadership Award
- Scored in Top 5% nationally in the AMC12 Math Competition (as a high schooler)

Masters, Mechanical Engineering | Purdue University | Fall 2024-Fall 2027

- **GPA: 4.0/4.0**
- Courses: Mechanical Vibrations, Micromechanics of Materials, Introduction to Scientific Machine Learning, Advanced Topics in Scientific Machine Learning
- Completed replication of *Solving inverse problems in physics by optimizing a discrete loss: Fast and accurate learning without neural networks* by Karnakov et al.
- Independent research studies in Bayesian Optimal Experiment Design and Bayesian Uncertainty Quantification in Aerospace Dynamics Modeling

Masters, Christian Studies | Part Time Study/Incomplete | Third Mill Seminary | Fall 2022

- Completed 3 credit hour foundational course on theology through the Apostle's Creed
- Wrote 18 Page research paper refuting a tenet of "Moral Therapeutic Deism" that one should not be "too religious"

- Honor Roll for Academic Excellence

Startup and Teaching Experience
Founder, Owner, Teacher | Tiger Team University | Chattanooga, TN | February 2020-Fall 2021

My mission with Tiger Team is to bridge the gap between the unfettered push for STEM education and the desperate cultural need for character and relational development. I did this by creating educational experiences that cultivate the character traits fundamental to success in both personal and professional adult life.

- Served 100+ students in Tiger Teams at 4 local schools and 1 online school founded by Elon Musk
- Operating summer camps in June and July on 4 different campuses, including 20 days of boarding camp
- Receiving overwhelmingly positive feedback from students, teachers, and administrators

I took my vision for Tiger Team full time to McCallie School in Fall 2021, seeing it as the most fertile ground to continue to iterate on my method and philosophy in a professional community.

Teacher | McCallie School | Chattanooga, TN | August 2021-Present

- Teacher of 4 sections of pre-calculus to mostly 11th graders
- Designed innovative project based curriculum from scratch, using modeling and data as a framework for utilizing student's passions to cultivate engagement, relevance, and conceptual understanding of functions
- Built from scratch and offered "Engineering from First Principles" and "Advanced Engineering" courses giving students an opportunity to experience first hand what it feels like to be an engineer in a team setting, wrestle with ethical engineering dilemmas, and rapidly grow through feedback and reflection.
- Led after school rocketry program, developing novel rockets and payloads to test fly in the Chattanooga area and compete in national competitions
- Working in small team to develop a "Habits of the Heart" schoolwide curriculum for character and virtue development

Professional Development and Research

- In summer of 2023, traveled to Denmark to study and wrote "Kierkegaard and STEM- Tiger Team PBL cultivates authentic human hearts, amidst an age of bots", a 150 page study funded by McCallie and in partnership with internationally respected Kierkegaard scholars
- Completed courses "Developing a School-Based Research Program" and "The Tech Solution" through the International Boys School Coalition (Spring 2022)

Ministry Work
- Served 2 years as High School boys youth leader at Rock Creek Fellowship Church in Rising Fawn, Georgia, leading small groups, teaching in large group settings, and traveling on retreats
- Served as a 20 hr/week employee at Rock Creek Fellowship as a youth ministry leader in Summer 2022

References

- A.V. Anilkumar- amrutur.v.anilkumar@vanderbilt.edu 615-512-6486
  Mark Dalton Director of Experiential Learning in Aerospace Engineering - Vanderbilt University
- Steven Furger- Direct Supervisor at SpaceX- Now VP of Engineering at Hermeus
  steve.furger@hermeus.com 510-589-3389