

Zachary C. Bickley

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EDUCATION

Duke University

2024 – 2028

B.S.E. in Mechanical Engineering, Materials Science and Engineering Certificate; 3.4 GPA

Durham, NC

Activities and societies: Marching/Pep Band, Duke Motorsports, Chess Club, Engineers for International Development, Society of Mechanical Engineers, Intramural Basketball Team Captain, Taiwanese Student Association

Santa Fe Christian Schools

2021 – 2024

4.79 Weighted GPA; 3.97 Unweighted GPA; 34 ACT

Solana Beach, CA

Activities and societies: Varsity Basketball, Veteran Leadership Academy, National Honors Society, Trombone Section Leader

EXPERIENCE/EXTRACURRICULAR ACTIVITIES

Duke MEMS | Undergraduate Research Assistant

Sep 2025 – Present

- Focusing on ethics case studies in the autonomous vehicle industry

Iron Mountains LLC (PA) | Computer Aided Design Draftsman

Jun – Aug 2025

- Designed and drafted injection-moldable juvenile and pet gear parts using SolidWorks for an award-winning design firm

Utrecht University (Netherlands) | Summer Program Student

Jul 2025

- Studied at a summer school program at a top-15 research university in Europe covering the application of circular economy in product innovation

Duke Pratt School of Engineering Team Co-Lead

Aug – Dec 2024

- Directed a four-member team to design and 3D-print a handheld toy car generator for an external client that produces electricity for displaced individuals in Gaza
- Ran weekly meetings, authored technical memos, interviewed our client for design input, allocated and completed SolidWorks models, circuitry, and testing tasks to group members, and ensured on-time and on-budget delivery of prototype within a five-month timeline
- Presented the working prototype to 100+ attendees at Duke Pratt School of Engineering Fair in December 2024 and featured in Duke Engineering magazine article

Bouncing Back Foundation | Author and Illustrator

Jan – Oct 2023

- Illustrated and published a bilingual (English/Mandarin) children's book inspired by the real story of 4-time NBA all-star player Vin Baker. His foundation, Bouncing Back, provides treatment to two rehabilitation centers in Wisconsin
- Interviewed by NBC Sports reporter Zora Stephenson on March 31, 2023 at a press conference in Milwaukee, Wisconsin

Urban Studies Researcher

Jun – Sep 2023

- Published a 2,000-word paper on Cambridge University Press proposing a sustainable redevelopment of vacant urban spaces post COVID under the mentorship of Dr. Stefan Al, adjunct professor at UPenn and Columbia University

UPenn Wharton Global Scholars Program

Jun – Jul 2023

- Selected as one of 60 participants; initiated and co-led app proposal for college student-athletes to be able to maintain their academic course load without sacrificing athletic performance. Used financial models to project 25,000+ users and over \$10 million in revenue within 2 years
- Interacted in webinars hosted by leading industry experts. Learned about sports management and the impact of NIL on modern collegiate athletics

Columbia University Architectural Immersion Program

Jan – Apr 2022

- Admitted as one of twelve participants for a 10 week, 30 hour program that explored key elements of architecture and developed design concepts using Rhino. Designed a sustainable building for downtown Chicago and received high praise from my instructor and peers

ADDITIONAL INFORMATION

- Technical Skills:** SolidWorks, Python, Rhino, JavaScript, Arduino IDE, C++, C#, Unity
- Awards & Certifications:** SolidWorks CSWA, LinkedIn Generative AI for Business Leaders, California Scholarship Federation Gold Sealbearer, Honor Roll (2021-2024), Academic Letter (2021-2024), Principal's Letter (2021-2024), Outstanding Musician (2022, 2023), Varsity Athletic Award, AP Scholar with Distinction (2023, 2024), Chess Tournament Taiwan Division Winner (2021), Geography Bee, Asia Pacific Region Semifinalist (2020-21)
- Languages:** English (native), Mandarin (native), Japanese (intermediate), Taiwanese (elementary)
- Travel Experience:** 27 countries on 5 continents. Lived and studied in Taiwan and the US