ALEXANDER FRANCISCO

60 Muegel Rd. East Amherst NY · +1 (716)-444-9630

Alexjamesfrancisco@gmail.com · www.linkedin.com/in/alex-james-francisco

EDUCATION

Electrical Engineering BS — Summa Cum Laude 2024 — **GPA: 3.97/4.0**

Electrical Engineering MS — Completion: 05/2025 — **GPA: 4.0/4.0**

SUNY UNIVERSITY AT BUFFALO — DEANS LIST 2020-2024 — **Tau Beta Pi Engineering Society *Laureate Scholar***

COURSEWORK & SKILLS

- All UB EE Circuit Analysis and Signals Courses
- Advanced Signals, Communication Networks
- FPGA and Embedded Systems
- ML on Edge Networks and Federated Learning
- *Industrial Ctrl Sys*, Digital design, and Sensors
- 3D Modeling/ CAD Design, Adv. Circuit Design
- VHDL, MATLAB, Python, C++, LaTeX

ACTIVITIES

- Music Performance Minor (Trumpet, Organ)
- UB, Amherst Symphony & the American Legion Band. Played Lead Trumpet for Lockport Historic Palace Theater
- Music Director for UB A Capella group "The Enchords"
- Local Buffalo *Taps* player for Veterans Ceremonies
- Organist: Played Hymns, Bach, Bux. and Pachelbel
- Will East Varsity & Club Volleyball: *Sec VI Scholar Athlete*
- *Fine woodworking*, soldering, Manufacturing

HONORS AND AWARDS

- Nationally selected as one of four *Engineering Laureate Award* winners in 2023 for diverse achievements.
- Patent and Design Award for 2020 Turbine Project utilizing +100 experiments on airflow and physics analysis
- New York State *Comptroller Achievement* and 2020 Presidential *Outstanding Academic Excellence* Awards
- Willie R. Evans Alumni Scholarship, National Honors Society and recipient of 4-year *Pride of NY* Scholarship
- School board award for Outstanding Musical Composition skills with *pieces being performed live* on 11/06/2022 by the American Legion Band: Post 264. Active professional musician to date.
- NYSSMA Composition Conference place holder for 3 consecutive years and awardee of the 2020 *Music Family Scholarship* for Musical Leadership.

EXPERIENCE (INTERNSHIPS & PROJECTS)

2022 Research Publication NSF: "*Prototype of Interactive Digital Twin in Cyber Manufacturing***"** Research REU. Published: 2022 ACM Conference in Boston. The first undergrad team to win the 2022 Russel Agrusa award.

2023 '24 TAPECON: *Flexible Hybrid Electronics:* EE R&D and installing Universal Pick & Place on factory floor.

2023 Fisher-Price Mattel: E-Design, soldering and individual project. I created a scan-tool for toy data logging.

2024 MOOG Aircraft: 3 Projects: Statistical Tolerancing. *Design to HV testing* of an IGBT Power Module for RMCU. I shadowed in-lab testing and created Block Diagrams from circuit diagrams for the VCAS units in Seahawk helicopter.

Davis Clean Room Certified: Cutting wafers, etching, doping, Ellipsometry, Profilometry Microscopy EBD & EBL.

EE Teachers Assistant: EE: 353, 352, 202, 205, 311. Grading papers lecturing and tutoring *students. 4 classes at once*

Volunteer Work: Music at churches, Mission Trip with Mustardseed communities, food drives, and summer camps

Taps: Performing Taps for veterans is a very special calling. I was taught by my father, who learned it from his. As a civilian it is an honor and privilege to give our brave American service men and women the final tribute they deserve.

Personal Projects: Horticulture, Car & Boat, 3D Printing, CNC, electrician work, welding, pneumatics, tree felling, childhood lawn care business, carpentry, plumbing, flood provision, remodeling, concrete & driveway work.

PROJECTS

Inter-Disciplinary Teamwork: *Team Name: "Code Red"* Two Electrical Engineers, and Two Computer Scientists: We have worked together for years to bring CS & EE concepts into practical use with engineering techniques.

-All Hackathons were projects completed in less than 24 hours by our team of 4 & presented to a board.

-Our first (of four) competitive wins together was placing 1st during our first semester freshmen year at UB.

1st Place: 2020 & 2022 UB Major League Hacking: $2,000 grand prize. A new take on home fire prevention and security. Bridging the gap between software and the real world in 24 hours provided unique engineering challenges.

Competed in Pinnacle 2020: The world's first "Hacking Olympics". The team was flown out to Dallas TX. My individual design project at *Pinnacle* was awarded 1st prize in LulzBot®'s *best 3D/CAD Design competition.*

Bottle Recycler Project: 2022 award-winning project that recycles plastic bottles into useable 3D printer filament.

1st Place Williamsville Tech Wars: 2018-2020 Awards in 3D modeling, CO2 Car Design, and Problem Solving.