ALEXANDER FRANCISCO

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EDUCATION

Electrical Engineering BS	**Electrical Engineering MS**	**SUNY UNIVERSITY AT BUFFALO**
Completion: 05/2024	Completion: 05/2025	DEANS LIST 2020-2023
GPA: 3.99/4.0	**Course Credits: 115**	**Tau Beta Pi E-Board: Inducted Dec 3 2022**

COURSEWORK & SKILLS

- EE202, EE205, EE310, EE311: Circuit Analysis
- EE383, EE476: Signals and Communications
- EE178, EE376, EE478: Firmware programming FPGA Hardware Description in VHDL
- 3D Modeling/ CAD Design, Circuit Design
- Embedded Systems Research Experience
- Office Programs, MATLAB, Python, C++

ACTIVITIES

- Principal Trumpet in East Wind Ensemble & Jazz ensemble 4+ years & still playing pro in ASO, UBSO, Musicals, Churches, and the American Legion Band
- Local Buffalo *Taps* player for Veterans Ceremonies
- Williamsville East Varsity, Lockport Club Volleyball +6 years; Section VI Scholar Athlete.
- *Fine woodworking*, carpentry, and soldering
- Workshop machines and manufacturing

HONORS AND AWARDS

- 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
- Member of NHS; 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 first place holder for 3 consecutive years and awardee of the 2020 *Music Family Scholarship* for Musical Leadership
- Current member of Engineering Honor Society *Tau Beta Pi and the National Society of Leadership and Success*

EXPERIENCE

Research Publication 2022 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.

TAPECON Inc 2022-23: Designing the pioneer line of Flexible Hybrid Electronics. Universal Instruments programming

Fisher-Price Mattel Inc 2023-24: Troubleshooting toy electronics and designing new hardware for data logging

Volunteer Work: I often volunteer at churches and public centers, helping with food drives, library work, and providing musical entertainment with my twin brother Marcus. I last year also volunteered a kid's summer camp.

Taps: Performing Taps for veterans is something truly special. I do it free for those in need. As a civilian it is an honor and privilege to give our countries brave American men and women of service the proper last tribute they deserve.

Personal Projects: 3D Printing, Backup Cameras, Arduino, general electrician work, welding, gas, tree felling, lawn care, carpentry, plumbing, *emergency flood provision*, interior/exterior design, remodeling, and Concrete work.

ACM Mentor: Mentors new UB students on how to start a personal project and how to approach your professors.

PROJECTS

Inter-Disciplinary Team of 4: *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.

> *Members: Alexander Francisco EE, Marcus Francisco EE, Aditya Pandya CS, Matthew Rubino CS.*
> *-All Hackathons were projects completed in less than 24 hours by our team of 4 & presented to a board.*
> *-Our first competitive win 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 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 winning 3D modeling, CO2 Car Design, and Problem Solving.