Zaeem Ahmad
C: 916-300-3117, E: Zahmad34@gatech.edu
Nationality: USA

EDUCATION

2021 - 2025	**Georgia Institute of technology**	**Atlanta, Georgia**

BS, Major: Computer Science

2017 – 2020	**California Virtual Academy @ Sutter**	**Roseville, California**

Honors: Dean's Honor List for 4 consecutive semesters; CGPA 3.96 / 4.00

EXPERIENCE

Aug'23-Present **VIP Undergraduate Researcher, Georgia Institute of Technology** **Atlanta, Georgia**

- Developed a robust object-oriented programming (OOP) framework with multiple classes and instance methods for substation component modeling, enhancing flexibility and scalability.
- Integrated communication protocols to ensure seamless data exchange among diverse components, leading to improved efficiency within smart grid systems.
- Conducted comprehensive research on component variables, providing valuable insights that significantly improved the accuracy of co-simulation models and informed data-driven decision-making.
- Implemented co-simulation using the HELICS framework, ensuring accurate representation and interaction of components, thus contributing to the project's overall success.

May'23-Present **Undergraduate Researcher, Georgia Institute of Technology** **Atlanta, Georgia**

- Developed and implemented advanced Python-based computational models for cardiac electrophysiology, leading to a 30% improvement in arrhythmia understanding compared to existing models.
- Successfully translated complex MATLAB algorithms to Python, resulting in a 20% reduction in computation time while maintaining accuracy and reliability.
- Integrated high-throughput patch clamp data into the computational models to enhance parameter estimation precision.
- Collaborated in the creation of a novel hybrid algorithm, reducing the need for initial assumptions in parameter estimation by 40%, thus significantly enhancing accuracy.

Jan'23-Aug'23 **Big Data Big Impact CS Intern, Georgia Institute of Technology** **Atlanta, Georgia**

- Spearheaded a cross-functional team effort to design and develop the Hurricane Cost Projector, a cutting-edge disaster impact prediction tool.
- Employed HTML, CSS, Python, and JavaScript to craft an intuitive and visually appealing front-end interface, ensuring a user-friendly and engaging experience.
- Enhanced the tool's effectiveness through the implementation of data visualization features, facilitating customer comprehension and interaction.
- Thrived in a dynamic, fast-paced environment, collaborating seamlessly within cross-functional teams to deliver impactful and innovative solutions to drive project success.

May'22-Aug'23 **BluEast – Technical Intern** **Lahore, Pakistan**

- Assisted with PCB design & embedded programming of an iOS & Android compatible App, "Autopilot", that is built using JavaScript (Frontend & Backend frameworks), Python, Ruby, PHP, & C++
- Spearheaded optimization process for algorithm that employs Mevris AI to tweak thermostat of DC inverter air conditioner based on metrics to ensure thermal comfort & reduce energy consumption by 80%
- Developed an automation scheme for test condition parameters that saved configuration time on the system & resulted in an overall 50% reduction in validation testing time.

Sep'20-Aug'21 **Orient Group of Companies – Business Analyst** **Lahore, Pakistan**

- Digitized sales network through 'Orient Dost' app that enabled 76+ team members & 100+ distributors spread across 16 territories to track performance in real time which led to a 20% increase in sales.
- Automated dispenser production line to enhance efficiency & replaced steel tanks with aluminum to improve hygienic standards, reduce production cost by 4%, & achieve 100% annualized increase in sales.
- Led team of 4 to implement employment 'Training Need Program' in SAP ERP to improve productivity of 67 middle management employees who completed 6 different training programs as part of this initiative.

EXTRA-CURRICULAR

- National Champion at National Tournament of Young Math, National STEM Educational Foundation Tournament of Young Mathematicians 2019.
- Contestant at International Earth Science Olympiad (2020 event canceled due to COVID-19).
- National Champion at National Earth Science Olympiad, National STEM Educational Foundation 2019-2020.

SKILLS

- **Programming Languages -** C++, Python, Java, JavaScript, HTML, React.JS, React Native, MATLAB, CSS, Figma, GitHub, Git
- **Languages -** English (Fluent), Urdu (Native), Hindi (Fluent), Punjabi (Intermediate)