Hamzah Issa

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Passionate and results-driven Electrical Engineering senior poised to revolutionize the automotive industry with innovative electrical solutions. Eager to leverage a solid foundation in power systems, multi-disiplanary engineering, and cutting-edge technology to contribute significantly to industry leaders. Committed to driving sustainability and efficiency in the pursuit of engineering excellence.

Experience

Siemens AG, Internship – Atlanta, Georgia **Summer 2023**

- Refurbished and devised a new Dust Test Chamber and implemented modifications to align the chamber with strict UL standards. The new device resulted in 65% reduction costs and 100% increase in testing efficiency.
- Orchestrated a comprehensive strategy for integrating DC breaker testing at the Siemens UL Testing Lab. Planned installation of DC power setups facilitating accurate performance of various electrical components.
- Conceptualized a software simulation to replicate breaker short circuit simulation, significantly reducing the need and cost of physical testing by 85% which saved Siemens about $1,000 per day.

Samsung senior design project – Austin, Texas **Fall 2023 – Present**

- Collaborating with Samsung Electronics on a cutting-edge project focused on automating the monthly generator test processes at their fabrication labs in Austin, Texas.
- Leveraging front-end user interface skills to develop a user-friendly application that will run on Samsung tablets, streamlining, and automating the test procedures.
- Integrating sensor data from the fabrication plant to monitor and optimize the generator test process for efficiency and reliability.
- Orchestrate a solution that enhances operational efficiency and reduces downtime, aligning with Samsung's commitment to innovation and productivity.

Graduate Research Laboratory – with Dr. Prasad Enjeti **Fall 2023 – Present**

- Grid Shield Power Inverter Cybersecurity: Implementing watermarking techniques to detect cyber intrusions on the inverter and ensure the system's overall security.
- Developing advanced Battery Energy Storage Systems (BESS) and Stationary Energy Storage Systems (SESS) technologies, positioning myself at the forefront of battery innovation within the electrical engineering landscape.
- Engineer second-life batteries, aiming to extend their usability and environmental impact by repurposing and optimizing used batteries for secondary applications such as BESS and SESS.

Formula Electric Society of Automotive Engineers (SAE) at Texas A&M **Summer 2022 – Fall 2022**

- Administered and coordinated the electronics team in executing and implementing elementary electric circuit design in the Formula vehicle to improve performance by 10-20%.
- Communicated with the various sub-teams with engineers from over 5 majors to successfully engineer the vehicle's design and allocated the best budget for the project and decreased the cost by an average of 48%.
- Researched renewable energy storage systems technology to construct a more technologically advanced and efficient form of power.

Engineering IT Specialist **Summer 2022 – Summer 2023**

- Assisted 200+ students, faculty, and staff in the engineering department at Zachary Educational Complex at Texas A&M by installing different programs, reimaging laptops, and computers, and providing technical support in classes.

Society of Hispanic Professional Engineers (SHPE) **Fall 2021 - Present**

- Operated and maintained the SHPE website while on the technical division team, decreasing the manual work by 75%.

Project Team Lead and Member at Eta Kappa Nu National Honors Society (HKN-IEEE) **Fall 2019 – Present**

- Spearheaded a team of engineers from 4 majors that worked on various projects throughout the year by utilizing both hardware and software components to achieve our goals.
- Improved a previous HKN project that utilized a solar panel by engineering the panel to track sunlight which increased the power generation efficiency by 15% and used more sustainable materials.

International Internship at Bojamhoor – Doha, Qatar **Summer 2020 – Summer 2021**

- Interpreted AutoCAD blueprints for the circuitry of internet servers, HVAC systems, distribution boards, low voltage boards, fire alarms, and smoke detector systems in 13 public schools across the nation.
- Corresponded with the Project Manager and numerous senior engineers from different engineering backgrounds on the daily project goals and assignments through Microsoft Teams, Zoom, and in-person meetings.
- Managed and supervised my team of engineers connecting circuitry from the transformer to the distribution board in the buildings and was able to lower the project cost by 35% by researching the market for better equipment.

Personal Projects

- Engineered and fabricated a pressure and water-resistive stopwatch for scuba divers to use when under high water pressure using SolidWorks and 3D printers.
- Programmed and developed a mobile-friendly personal website using self-taught skills in HTML, CSS, and GitHub.

Engineering Peer Teacher **Fall 2020 – Present**

- Collaborated with professors to ensure students in the class were well-prepared to implement and utilize Python in their engineering careers. Responsible for grading and providing feedback on over 70 programming assignments per week and administered midterms and final examinations throughout the semester.

Education

Texas A&M University | College Station, TX May 2024
Bachelor of Science in Electrical Engineering GPA: 3.5
Dean's Excellence Award – Honorable mention.

Skills

- SolidWorks, C++, PSIM, Python, MATLAB, HTML, CSS, LT Spice, LabVIEW, GitHub, Creo, ETAP, Tableau, Knime.
- English: Native or Bilingual Proficiency, Arabic: Native or Bilingual Proficiency.