Melissa Chang

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WORK EXPERIENCE

Texas Instruments

Applications Engineer *Sept 2022 - Present*

- Own Automotive Ethernet customer support for Asia region by applying product expertise to recommend products for customer applications, review designs, and help troubleshoot technical issues from bring up to design verification.
- Mitigate escalations by independently driving customer debugs to resolution, saving multi-million dollar opportunities.
- Support new product development through competitor research, evaluation board design, and the generation of product briefs, reference designs, datasheets, application notes, and software code.
- Collaborate with the applications team to brainstorm and develop innovative solutions for customer issues, analyze trends to identify recurring challenges, and design streamlined approaches that address the needs of multiple customers efficiently.
- Provide regular input to systems and marketing teams about customer needs to improve product definition.
- Organize and deliver technical training sessions to field engineers and customers about how to utilize and apply our products and how to bring up our demos, ensuring seamless transition to Texas Instrument products.
- Present demos and new product features at trade shows, effectively showcasing the latest advancements and enhancing product visibility and interest from major customers.
- Design and create schematics for multilayer PCBs including SoC, power circuits, high speed differential communication protocols, audio, and general system integration (I/O, I2C, MDC/MDIO) for boards used for engineering evaluation and demos.
- Conduct signal integrity simulations (IBIS model, S-parameter) to evaluate and enhance PCB design.
- Resolve EMC issues with PCBs to ensure compliance with Automotive standards (IEC62228-5, SAEJ2962-3).
- Supervise and define project scope for interns, ensuring project execution and professional development.

Product Marketing Engineer Intern *June 2020 – Sept 2021*

- Created comprehensive technical documents, how-to video clips, and sales collateral for Ethernet PHY products, enhancing customer understanding and supporting the sales team.
- Wrote scripts in VBA and Python to automate the creation of graphs and reports from sales data, streamlining the analysis of customer base trends and improving reporting efficiency.

PROJECTS

Cooking Papa

Systems Design Course Project *Jan 2022 - June 2022*

- Developed a spin-off of the controller game *Cooking Papa* in Python, applying concepts of Speech processing, IMU gesture recognition, vision processing, graphics, and MQTT communication in a team of four.
- Coded the IMU gesture recognition feature with 6 degrees of freedom in the Python by collecting and analyzing gyroscope and accelerometer data in real time, thereby translating controller movement into cooking motions.

Bruin Supermileage Vehicle

Bruin Supermileage Vehicle Team *March 2021 - Jan 2022*

- Designed a logic circuit for the Altera MAX 10 FPGA to control three gate drivers for our brushless DC motor controller, enabling vehicle motion.
- Simulated the BLDC motor controller logic circuit using ModelSim to ensure reliable performance.

RELEVANT SKILLS

- Programming/Embedded Systems: C/C++, Python, Matlab, Linux
- Engineering Software: Cadence Sigrity, ADS, Spice, Altium, Quartus (FPGA)
- Lab equipment: Oscilloscope, Logic Analyzer, Multimeter, Solder Iron, ThermoStream, TDR, VNA
- Protocols: I2C, SPI, I2S, SGMII/LVDS, SerDes

EDUCATION

Bachelor of Science in **Electrical Engineering** from the University of California, Los Angeles | GPA: 3.76/4.00