Abel Tesfai

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Professional Experience:

IBM Rochester, MN //Signal Integrity Engineer // 06/2021 --- Present

- Expertise in 3-D modeling with ANSYS HFSS/Q3D and 2.5-D with ANSYS SIWAVE.
- Conducted pre- and post-simulation of signal integrity for memory subsystems.
- Expertise with TDR, VNA, measurement tools/techniques.
- Design and analysis of high-speed digital interconnects, such as DDR, LPDDR.
- Silicon device modeling methods such as IBIS.
- Collaborated with cross-functional teams to ensure signal integrity requirements were met.
- Utilized tools such as HFSS, SIWAVE, ANSYS CIRCUIT, 2D EXTRACTOR, POWERDC, and Cadence Allegro for signal analysis.

IBM Rochester, MN //Hardware Developer Internship // 05/2019 --- 06/2021

- Lab equipment such as oscilloscopes, TDR's, or VNA's.
- Solder components onto boards using a scope.
- Failure analysis to board level and component level.
- Troubleshoot and repair circuit boards.
- Build Patch Panels, DC box, LO box for IBM Quantum servers.

Xcel Energy Mankato, MN // Wafer Fabrication Internship // 09/2018 --- 05/2019

- Fabricated wafers from glass substrates to create IC's, including BJT and MOSFET.
- Operated furnaces at temperatures up to 1000 degrees to process the wafers.
- Safely handled hazardous chemicals such as BOE (Buffered Oxide Etch) and HCL (Hydrochloric Acid).
- Operated specialized machines, including mask aligners and photolithography machines.
- Conducted wafer testing using scopes and wafer probes for quality assurance.

Education:

- Master of Science in Electrical Engineering, Minnesota State University Mankato

- Bachelor of Science in Electrical Engineering, Minnesota State University Mankato

Skills

- Proficient in Python, C, TKINTER, and Perl.
- Ability to work independently and manage conflicting priorities on multiple tasks.
- Strong organization and communication skills, self-motivated.
- Ability to perform measurement and correlation of S-parameter models using VNA.
- Strong fundamental knowledge in related fields.
- HW intern experience.
- 2D/3D or high frequency field solver simulation tools, such as HFSS, CST, Q2D, Q3D, Powerdc, etc.