

Dear Sir/Madam,

Greetings!!

I am a graduate student at University of Houston where I am pursuing Master of Science in Electrical Engineering under Dr. Stanko R. Brankovic and am looking for challenging position in the field of semiconductor process engineering/ Modeling and Simulation.

I am currently working as a Research Assistant in 'Electrochemical Nanofabrication and Nanomaterials Synthesis Lab' at University of Houston, which partners with 'University of Houston Nanofabrication Facility'. Here I am working towards my Master's thesis titled, "Modeling and Simulation of Copper Surface Morphology Evolution during Electropolishing". This research is aimed to enhance the understanding of planarization of copper interconnects during fabrication using electropolishing which will work alongside of Chemical Mechanical Planarization (CMP).

My field of research includes planarization and electroplating (ECD) using novel electrochemical techniques for micro and nanofabrication. I have printed and fabricated my own sample sets in Si wafers and therefore I have good experience with e-beam lithography, sputtering, thermal and e-beam evaporation PVD techniques, Resist developing and processing, wet etching, Scanning Electron Microscope (SEM), Atomic Force Microscope (AFM) and other related metrology tools. Also, I am trained and have conducted all experiments in Class 10 and Class 100 clean room facilities and certified in General Lab Safety and Hazardous Materials.

I have strong academic background in this field and some of the relevant courses that I have taken include Nanoscale Design & Fabrication, MEMS & Nanodevices, Microlithography, Material Science of Thin Films, Solar Cells Design & Fabrication, VLSI Design, Advanced Hardware Design, Advanced Digital Design, Stochastic Processes etc. I use MATLAB daily as a part of my research in which I have created a custom toolbox with complete GUI, handling the image process analysis and other modeling parameters. I also have designed and simulated various projects using COMSOL, CALP, PSPICE, SILOS, and QUARTUS etc. as a part of my academic projects.

In my earlier job as statistical analyst, I have extensively used various data analysis tools to do Chi-square tests, reliability tests, factor analysis, regression analysis, etc. and also I have worked as software development engineer where I have performed software coding, maintenance, testing, data analysis and technical documentation. These experiences have helped me acquire good analytical skills and also communication skills by interacting with clients from various countries and working in groups.

I will be completing my master's degree in January and will be available to begin employment immediately after that. I am open to work either as an intern or in a full time position and I already have my Employment Authorization Card. I am confident that the combination of my knowledge and experience skills in both semiconductor processing, modeling and simulation programming will be utilized efficiently as a valuable member of your team.

I look forward to talk with you regarding the opportunities and thank you for the consideration.

Yours very truly, Joel Thomas