RAPHAEL T. DANGTRAN

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Education

University of California, San Diego Graduated June 2015
B.S. Nanoengineering focus in Bioengineering
GPA: 3.20/4.0

Technical Skills

Software
- SolidWorks
- AutoCAD
- MATLAB
- COMSOL Multiphysics
- EasyC Programming
- Windows & Microsoft Office

Hardware
- Oscilloscope
- Voltmeters
- Function Generator
- Soldering

Instrumentation
- UV-Vis Spectroscopy
- DLS Spectroscopy
- Fluorescence Microscopy

Experience

Engineering Intern
JC Sensors Inc., San Jose, CA Mar. 2010—June 2015
- Utilized MEMS-based motion sensors to support the production of company's health sensor product
- Prepared test equipment and performed regular test duties
- Studied SolidWorks to effectively adapt assembling process and test fixtures
- Partnered with vendors to address issues with orders and pricing
- Assisted engineers by capturing circuits and retrieving PCB fabrications

Engineering Projects

Non-invasive electrochemical Sensor Jan. 2015—June 2015
- Fabricated a working biosensor device to measure ethanol content in human sweat
- Operated a semiconductor parameter analyzer to obtain data of different ethanol concentration in synthesized solutions and human sweat
- Analyzed results using MATLAB to project I-V curves between the conductivity and ethanol concentration

Liposomes Drug-loading Efficacy Oct. 2014—Dec. 2014
- Prepared liposome nanoparticles through sonication
- Utilized DLS spectroscopy to characterize liposome nanoparticle size distribution
- Operated UV-Vis spectroscopy to measure the absorbance of liposome nanoparticles concentration
- Calculated the drug-loading efficacy from the obtained absorbance results

Dielectrophoresis Isolation of Nanoparticles Sept. 2014—Oct. 2014
- Designed and created a device that isolated materials based on size using dielectrophoresis
- Employed COMSOL to simulate efficiency of the device with different external conditions
- Evaluated the results using optical and fluorescence microscopy

Robot Project Aug. 2012—Dec. 2012
- Constructed a robot to maneuver to designated infrared emitting beacons
- Programmed using C-Language to control the robot's mobility and functionalities
- Assembled IR multi-function board with precise soldering technique

Affiliations

Member, NanoEngineering & Technology Society (NETS) Sept. 2012—June 2015
Member, The Biomedical Engineering Society (BMES) Sept. 2012—June 2015