

JULIA C. HSU

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EDUCATION	Farragut High School	Knoxville, TN
	• GPA: 4.4/4.5, Rank: 11/512	2006-2010
	Massachusetts Institute of Technology	Cambridge, MA
	• GPA: 4.5/ 5.0	2010-present
	• Mechanical Engineer Major (Mechatronics Product Development)	
RELEVANT EXPERIENCE		Knoxville, TN
Spring 2010	Oak Ridge National Laboratory Materials Science Division Research Intern	
	<ul style="list-style-type: none">Quantitatively analyzed heat-treatments' effects on the 316LN stainless steel covering of the mercury target within the Spallation Neutron Source to determine validity of repairs.By analyzing weight loss, surface pit depths, and DPH, was able to show that heat-treatments cause negligible amounts of cavitation erosion; thus, validating this process.Acquired knowledge of the faults and strengths of steel in engineering design and how to optimize materials for better machine performanceRecognized for contribution in research report <u>Influence of Heat Treatment Mercury Cavitation Resistance of Surface Hardened 316LN Stainless Steel</u> by Steven Pawel which was published in Oak Ridge National Lab Technical Memorandum ORNL/TM-2010/212, September 2010	
Fall 2009	University of Tennessee Department of Energy Research Intern	Knoxville, TN
	<ul style="list-style-type: none">Conducted in-depth research on industrial waste as a renewable cost-efficient energy alternative to traditional energy sources.By analyzing a variety of measures including chemical volume and content, was able to determine that a higher percentage of grease trap waste mixed with cow manure would produce a higher level of the alternative energy source, biogas.Determined the validity of the continuous reactor process as a viable cost-efficient alternative energy process with the previously determined combination of grease trap waste and cow manure to produce 200% more biogas compared to other waste sourcesLearned the importance of environmental-conscious engineering design and ultimate goal of energy conservation or renewal	
ADDITIONAL EXPERIENCE		
Summer 2011	Testprep Calculus Tutor	Knoxville, TN
	<ul style="list-style-type: none">Led one-on-one calculus tutoring sessions for each student with a custom lesson plan to help strengthen quantitative skills; created comforting environment for maximum learning potential	
Summer 2010	Concord Hills Tennis Association Head Tennis Coach	Knoxville, TN
	<ul style="list-style-type: none">Directed tennis matches for adolescents aged nine to eighteen with other local organizations to encourage tennis enthusiasm and healthy exercisingCreated customized lesson plans and lead weekly practices focusing on beginner tennis skills	
ADDITIONAL	<ul style="list-style-type: none">Basic Java computer programming skillsITA All-Academic Team/Scholar Athlete Award recipientRelevant summer classes: System Dynamics, Mechanics of MaterialsFamiliar with gas chromatographer, Rockwell Hardness Tester, micro-hardness scaleLove to play LEGOs and build electronics	