Andrew Clarke

CAMPUS:
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OBJECTIVE: Mechanical engineer seeking challenging technical position in research and development, creative design, or maintenance with an opportunity to do field work

QUALIFICATIONS:
- EIT, Georgia, 2004
- Software proficiencies in MATLAB, Lotus, Microsoft, and AutoCAD 14
- US citizen

EDUCATION:

Master of Science in Mechanical Engineering, 5/2007
Georgia Institute of Technology, Atlanta, GA
GPA: 3.55/4.0
Thesis Title: Investigation of factors contributing to the deposition of contaminant of dryer cylinders
Advisors: Dr. Tim Patterson and Dr. Fred Ahrens

Bachelor of Science in Mechanical Engineering, 5/2004
Georgia Institute of Technology, Atlanta, GA
GPA: 3.48/4.0 (Magna Cum Laude)

EXPERIENCE:

Research Technician I, 1/2008 to 2/2008
Georgia Institute of Technology, Atlanta, GA
- Performed WADS (Web-Adhesion Drying Simulator) experiments and analyzed the data to characterize the peeling behavior of paper from various belt fabrics using a data acquisition system and high speed video
- Instructed and supervised graduate students on safe manufacturing procedures for making handsheets according to TAPPI standards in the wet paper-making lab

Graduate Research Assistant, 1/2005 to 12/2007
Georgia Institute of Technology, Atlanta, GA
- Developed numerical simulations of heat transfer processes through a porous medium using MATLAB
- Investigated microsphere deposition distribution through the thickness of a sheet of paper by performing drying experiments designed to show changes in microsphere distribution as a function of surface temperature, microsphere diameter, and drying time

- Demonstrated proficiency in use of paper manufacturing equipment including handsheet molds and a formette machine to make samples according to standard paper manufacturing (TAPPI) procedures for drying experiments
- Demonstrated proficiency in use of paper testing equipment used to measure mechanical and optical properties of the sheet including sheet caliper, sheet strength, fiber strength, and sheet brightness

Graduate Teaching Assistant, 8/2004 to 12/2004, 8/2005 to 12/2005
Georgia Institute of Technology, Atlanta, GA

Creative Decisions and Design class (Fall 2005)

- Instructed and supervised students on safe operating procedures of lab machinery including mills, lathes, and various power saws
- Trained students on programming an electronic microcontroller to facilitate the operation of switches, flex and infrared sensors, and electronic motors
- Advised students on proper mechanical design and technical writing techniques for all class projects
- Directed and supervised the final major robotics competition for the class

Experimental Methodology Lab (Fall 2004)

- Instructed students on use of data acquisition equipment and lab instruments to explore natural phenomena associated with mechanics, thermodynamics, fluid mechanics and system dynamics
- Performed experiments for students in lab demonstrating knowledge of 2^{nd} order systems, microprocessor control, thermal measurements with thermocouples and heat flux sensors, stress and strain measurements, machine diagnostics using Fast Fourier Transform analysis, acoustics in echo and anechoic chambers, and fiber optic inferometric sensors

Mechanical Engineering Intern, Summer 2003
Albemarle Corporation, Baton Rouge, LA

- Converted existing project management programs from Lotus to Excel
- Created user-friendly interfaces for project management databases using custom macros programmed in Visual Basic

Maintenance Co-op, 5/2000 to 8/2002
Albemarle Corporation, Orangeburg, SC

- Used CAD to create 3-D models and 2-D technical drawings for parts and assemblies used in the plant
- Identified and supervised repairs of inefficiencies in the steam distribution system using engineering controls such as steam traps, valves and modifications to the piping design saving ~$200,000/year in steam costs
- Developed and maintained steam trap and cooling tower databases using Lotus Approach
- Performed an audit of plant equipment to update data in Systems Applications and Products (SAP) database

ACTIVITIES:

- Treasurer, Phi Kappa Psi, Georgia Beta Chapter, 2002-2004
- Science and Engineering Running Group
- Red Cross Certified Lifeguard and First Aid: 5/1997 – 5/2003, 5/2004 – 5/2007
- Red Cross Certified CPR for the Professional Rescuer: 5/1997 – 5/2001, 5/2004 – 5/2007