ALISON L. COZAD

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OBJECTIVE

To bring a knowledge of modeling, optimization, statistics, and chemical processes to a summer internship while learning in a new industrial environment

EDUCATION

Carnegie Mellon University   Expected May 2014
Ph.D. Chemical Engineering   *Pittsburgh, PA*
   Advisor: Nick Sahinidis
   GPA: 3.7/4.0

University of Minnesota   May 2009
Bachelors of Chemical Engineering   *Minneapolis, MN*
   Emphasis: Numerical and Computational Modeling
   GPA: 3.6/4.0

RELEVANT EXPERIENCE

Boston Scientific Corporation   May 2009 - August 2009
Manufacturing Engineering Intern   *Woodbury, MN*
   Process and instrumentation troubleshooting: Worked on a yield improvement project by tracing product flaws of catheters for stents throughout the process to locate instrumentation, equipment, and process steps for improvement.

Ecolab Inc.   June 2008 - August 2008
Chemical Engineering Intern   *Eagan, MN*
   Statistical test improvement: Redefined, developed, and/or altered several test methods to statistically verify test precision with nonlinear categorical inputs, preform analytical tests, and better represent real-world situations.

Seagate Technology   May 2007 - May 2008
Chemical R&D Engineering Intern   *Edina, MN*
   Process development and improvement: Used six sigma methodology to improve the key output variable by 40% by building and validating a transfer function to model the effect of process and vendor inputs on output process metrics in chemical-mechanical hard drive lapping. Took the initiative to earn a Six Sigma Orange Belt.

Donaldson Company, Inc.   May 2006 - September 2006
Engineering Intern   *Bloomington, MN*
   Product reconciliation for the global business: Lead a project designed to restructure and reorganize a product code system to be used on a global level. Organized meetings and activities to integrate US and international database systems teams.

AREAS OF INTEREST

Optimization, simulation, modeling, machine learning, design of experiments, data analysis, black-box optimization

COMPUTATIONAL SKILLS

Computer Languages	Matlab, C++, Java, Visual Basic for Applications, HTML
Applications	GAMS, BARON, CPLEX, AspenPlus, MS Excel, MiniTab

TECHNICAL PRESENTATIONS

- A. Cozad and N. V. Sahinidis, "Simulation optimization: Why it's tough and how to deal with it", 34nd Annual ChEGSA Symposium, Pittsburgh, PA, September, 2012.

- A. Cozad and N. V. Sahinidis, "Derivative-free optimization enhanced-surrogate models for energy systems optimization", Invited talk at the INFORMS Annual Meeting, Charlotte, North Carolina, November, 2011.

- A. Cozad, N. V. Sahinidis, and D. C. Miller, "Learning surrogate models of processes from experiments or simulations", Talk at the Annual AIChE Meeting, Minneapolis, Minnesota, October, 2011.

- A. Cozad, Y. Chang, N. V. Sahinidis, and D. C. Miller, "Optimization of carbon capture systems using surrogate models of simulated processes", Talk at the Annual AIChE Meeting, Minneapolis, Minnesota, October, 2011.

- D. C. Miller, Y. Chang, A. Cozad, H. Kim, A. Lee, P. Vouzis, N. V. S. N. M. Konda, A. J. Simon, N. Sahinidis, L. Yang, and I. E. Grossmann, "Synthesis of optimal adsorptive carbon capture processes", Talk at Annual AIChE Meeting, Minneapolis, Minnesota, October, 2011.

- A. Cozad and N. V. Sahinidis, "'Using derivative-free algorithms to identify surrogate models of energy systems"', Invited talk at the SIAM Conference on Computational Science and Engineering(CSE11), Reno, Nevada, March, 2011.

- A. Cozad, N. V. Sahinidis, and D. C. Miller, "Optimization of power plant simulations with integrated carbon capture systems using black-box algorithms", Talk at the Annual AIChE Meeting, Salt Lake City, Utah, November, 2010.

RELEVANT COURSEWORK

- Advanced Process Systems Engineering
- Machine Learning
- Linear Programming
- Integer Programming
- Nonlinear Programming

TEACHING ASSISTANTSHIPS

2012 Mathematical Modeling of Chemical Processes	**2010** Optimization Modeling and Algorithms
2011 Advanced Mathematical Techniques	**2010** Chemical Product Design
2010 Chemical Engineering Thermodynamics	**2009** Thermodynamics

ACTIVITIES AND INTERESTS

- Chemical Engineering Graduate Student Association Officer
- Graduate supervisor for the Carnegie Mellon AIChE ChemE Car Team
- Brazilian jiu jitsu
- Actively pursuing a bruise-free mountain bike ride