

**Objective:** To obtain a full time position involving applied math.

**Education:** **Bachelor of Science, Mathematics, February 2008**  
**Minor:** Applied Biology  
Rose-Hulman Institute of Technology, Terre Haute, IN  
**3.92/4.00 Current GPA**

DeKalb Eastern High School, Butler, IN, May 2004  
Valedictorian, Honor Society President, Lilly Endowment Scholar  
**3.99/4.00 GPA**

**Skills &  
Qualifications:**

- ◆ Skilled in Maple, MATLAB, Solid Edge, Java, and LaTeX
- ◆ Skilled in public speaking and technical report writing
- ◆ Familiar with image processing techniques and wavelets
- ◆ Courses in biophysics, bioelectric signals, basic circuit analysis, image processing, and computer science.

**Work**

**Experience:**

Rose-Hulman Institute of Technology, Terre Haute, IN 8/07-present  
**Cancer Therapy Research**

- ◆ Investigating femtosecond laser heating of nanoparticles
- ◆ Modeling nano-cluster optics with Mie theory
- ◆ Presenting work at Argonne National Lab in November 2007

City University of Hong Kong, Hong Kong, China 6/07-8/07

**Mathematical Biology Research Assistant**

- ◆ Investigated models of emergent flocking behavior
- ◆ Developed MATLAB simulations of flocking behavior
- ◆ Compared simulations across various mathematical models

Texas A&M University, College Station, TX 6/06-8/06

**Mathematics Research Assistant**

- ◆ Obtained proofs for various wavelet-related properties
- ◆ Experimented with wavelet-based data multiplexing
- ◆ Presented results to the National Science Foundation

SPX Contech Die Cast Facility, Auburn, IN 6/05-8/05

**Mechanical Engineering Intern**

- ◆ Conducted experiments related to customer quality issues
- ◆ Managed Preventative Maintenance program for two months
- ◆ Presented project conclusions in a formal, professional setting

**Publications:**

Spears, *et al.* A Characterization of Refinable Rational Functions.  
*American Journal of Undergraduate Research*, Vol. 5,  
Issue 3: Cedar Falls, Iowa. December, 2006. pp. 11-20.