Joshua Holbrook

503 Long Spur Loop Fairbanks AK 99709 – (907) 841-9238 – josh.holbrook@gmail.com – http://jesusabdullah.github.com

Skills and Qualifications:

- Proficient with Microsoft Office suite and GNU/Linux; and experience with COMSOL Multiphysics 3.5
- Proficient with MATLAB, python/scipy and LabVIEW; and experience with bash and javascript

Education:

Master of Science in Mechanical Engineering   *Sept. 2009 – May. 2011 (expected)*
Completed 21 Credit Hours 3.62 current GPA

Bachelor of Science in Mechanical Engineering, Cum Laude   *Aug. 2005 – May 2010*
Minor in Mathematics 3.67 GPA

High School Diploma   *May 2005*
3.73 GPA

Projects:

The Determination of Anisotropic Thermal Conductivity with Thermal   May 2010 – Present
Needle Probe Measurements

- Masters Thesis
- Numerical component involving 3-D modeling with comsol and matlab to simulate thermal needle probe measurements
- Lab measurement component involving engineered anisotropic materials

Node-Chess   *August 28, 2010 – August 29th, 2010*

- A Node Knockout contest submission
- Personally responsible for most of the art and some of the UI
- Written in only 48 hours
- Hosted at http://dark-knights.no.de

Lulzbot   *July 2010 – December 2010*

- IRC Bot
- First significant project in javascript and node.js
- Watched github, checked weather
- Source at https://github.com/jesusabdullah/lulzbot

Methlabs   *June 2010 – August 2010*

- A collection of tools for Matlab
- m-files inspired by functional programming paradigms such as those in Haskell
- Includes a python script that allows shebanged scripts to be interpreted by Matlab

Counting of Stream Crossings Along a Path Between Two Given   March 2010 – May 2010
Alaskan Villages

- Used python and qgis
- First experience with ESRI shapefiles and GIS in general
- Part of a feasibility study on laying unburied fiber optic cable over tundra in remote regions of Alaska

Super Four-Bar Explorer   *December 2008*

- A program written in python that uses a Gauss-Newton unconstrained optimization algorithm to fit the path traced by a four bar linkage to a given set of points
- Accompanied by a spreadsheet that illustrates four-bar linkage traced paths

Service:

American Society of Mechanical Engineers, Student Chapter   *September 2009 – May 2010*

- Administered web site and facebook page
- Volunteered at E-Week activities

Awards & Grants:

Center for Global Change Student Research Grant   *May 2010*

- Project title: "Determining Anisotropic Thermal Conductivity of Snow with Needle Probe Measurements"
- Awarded $8200

3rd Place, 2010 Campus Research Day Undergraduate Symposium   *April 9th, 2010*

- Project title: "Development and Benchmarking of Optical Touchscreen User Interface Technology"
- Awarded $1000

Undergraduate Research Grant   *October 2009*

- Project title: "Development and Benchmarking of Optical Touchscreen User Interface Technology"
- Awarded $2250

Employment History:

Teaching assistant   *September 2010 – Present*
UAF Mechanical Engineering Department, Fairbanks AK
Job duties include:

- Grading homework and designing quizzes for ES 346, Basic Thermodynamics
- Grading homework for ME/ENVE 458/658, Energy and the Environment
- Grading homework for ME 403, Machine Design
- Redesigning and conducting laboratory experiments for ME 415, Thermal Systems Lab

Research Assistant   *January 2010 – August 2010*
UAF Institute of Northern Engineering, Fairbanks AK
Job duties include:

- Designing and running finite element models using COMSOL and MATLAB
- Analyzing geographical information using perl, python, MATLAB and C++

Office Assistant   *January 2008 – December 2009*
UAF Mechanical Engineering Department, Fairbanks AK
Job duties include:

- Tracking purchase information on UAF's Oracle database and compiling it into a human-readable form
- Facilitating communication between students, faculty and system administration

Professor's Assistant   *September 2008 – December 2008*
UAF Mechanical Engineering Department, Fairbanks AK
Job duties include:

- Grading and correcting homework assignments for ES 331, "Mechanics of Materials"

Painter   *May 2008 – August 2008*
UAF Conference Services, Fairbanks AK
Job duties include:

- Patching, painting and wet-sanding walls, ceilings, doors and trim

Construction Laborer   *May 2007 – June 2007*
Panco Construction, Talkeetna AK
Job duties include:

- Sanding, polishing and assisting in the fabrication of solid surface
- Stocking, staging and assisting in the install of countertops other materials

Laboratory Assistant   *February 2007 – May 2007*
UAF Water and Environmental Research Center, Fairbanks AK
Job duties include:

- Taking inventory of chemical stock
- Tabulating, manipulating and organizing test data in Excel

Porter   *May 2006 – August 2006*
Aramark-Harrison Lodging, Denali National Park AK
Job duties include:

- Stocking; cleaning and maintaining public areas; and preparing rooms for guest arrival