

# Joshua Holbrook

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## Skills and Qualifications:

- Proficient with Microsoft Office suite and GNU/Linux; and experience with COMSOL Multiphysics
- Proficient with MATLAB and python/scipy, experience with bash and javascript and Exposure to C(++), Perl and PHP;
- Certified LabVIEW Associate Developer

## Education:

*Master of Science in Mechanical Engineering*

*Sept. 2009 – Dec. 2010 (expected)*

*Minor in Mathematics*

*Completed 15 Credit Hours*

*3.68 current GPA*

*Bachelor of Science in Mechanical Engineering, Cum Laude*

*Aug. 2005 – May 2010*

*3.67 GPA*

*High School Diploma*

*May 2005*

*3.73 GPA*

## Projects:

*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

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

- 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

*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

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

- Masters Thesis
- Involves 3-D modeling with comsol and matlab to simulate thermal needle probe measurements

*Lulzbot*

*July 2010 – Present*

- IRC Bot
- First significant project in javascript and node.js
- Watches github, checks weather
- Lulzbot-X in <irc://irc.freenode.net/#stackvm>

## *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>

## **Service:**

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

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

## **Employment History:**

### *Research Assistant*

*January 2010 – Present*

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' 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      May 2007 – June 2007 full-time      January 2008 – Present on irregular basis*  
*Laborer*

Panco Construc-  
tion,      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