

# Joshua Holbrook

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## Skills and Qualifications:

- Expert in server-side JavaScript (node.js); Knows JavaScript & python/scipy; Experience with bash, R, MATLAB & LabVIEW
- Theoretical and practical experience with numerical methods focusing on multivariate nonlinear optimization and boundary value problems
- Proficient with Microsoft Office suite and vim; And experience with COMSOL Multiphysics 3.5 and emacs
- Expertise in engineering/laboratory measurements and instrumentation hardware

## Education:

*Master of Science in Mechanical Engineering* Sept. 2009 – May. 2011  
*Thesis: The Determination of Anisotropic Thermal Conductivity with Thermal Needle Probe Measurement*  
3.62 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 Needle Probe Measurements* May 2010 – May 2011

- 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

*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

## 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

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

## **Employment History:**

### *Head of Support*

*June 2012 – December 2012*

Nodejitsu Inc., San Francisco CA

Job duties include:

- Managing and training junior support engineers
- Monitoring IRC, email, twitter and other sources for support requests
- Triaging and investigating issues with Nodejitsu software, servers and cloud providers
- Maintaining, bugfixing and managing releases for the Flatiron framework and Nodejitsu's open-source software
- Developing and maintaining internal support infrastructure and tooling

### *Teaching Assistant*

*September 2010 – May 2011*

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++

### *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