

## JONATHAN PAUL BROWN

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### EDUCATION

University of Hawai'i at Mānoa, Honolulu, HI

**Ph.D. in Mathematics**

**In Progress**

California State University Stanislaus, Turlock, CA

**B.S. in Mathematics**

**2010**

California State University Stanislaus, Turlock, CA

**B.S. in Computer Science**

**2010**

Dean's Medal of Excellence

Computer Science Student of the Year

### FELLOWSHIPS AND AWARDS

SUPER-M NSF Fellow, University of Hawai'i at Mānoa

January 2012 – Current

Computer Science Student of the Year

2010

AMS Collegiate Problem Solving Competition National Competitor

2009

AMS Collegiate Problem Solving Competition Regional Champion

2009

Innovative Initiator, Hunger Network

2008

### CURRENT RESEARCH

Universal Algebra - Finding the upper bound for the number of covering relations in a lattice with  $n$  elements, as a function of  $n$

### RESEARCH EXPERIENCE

California State University Stanislaus, Turlock, CA

**Research Assistant**

**March 2009 – December 2009**

Machine Learning – Create a web site and a user interface for automated testing of the reliability of information on medical websites, algorithm development, and produce reports.

University of Texas, Austin, TX

**Research Training Group Participant**

**Summer 2008**

Multi-scale Modeling and Analysis – Implement a novel multi-scale numerical method for stiff equations developed by Dr. Lexing Ying and advanced coursework in: wavelets, fast and multi-scale algorithms for integral equations and transforms, high frequency methods for the wave equations, and stochastic multi-scale modeling.

### TEACHING EXPERIENCE

University of Hawai'i at Mānoa, Honolulu, HI

**Lecturer – Calculus I & Pre-Calculus**

**Summer 2011**

Develop Syllabus and overall course structure, use custom online course software, and administer all grades.

**Lecturer – Pre-Calculus**

**Fall Extension 2010**

Develop Syllabus and overall course structure, and administer all grades.

**Teaching Assistant – Calculus I, Calculus II, and Pre-Calculus I**

**Fall 2010 – Fall 2011**

Develop custom online software and overall course structure, and administer all grades for Pre-Calculus I. Develop overall structure for lab/discussion section and custom online course software, as well administer lab grade for both Calculus I and II.

California State University Stanislaus, Turlock, CA

**Teaching Assistant – Intermediate Algebra**

**Spring 2009**

Assist students during group work in class.

## PRESENTATIONS

- Hawai'i Council of Teachers of Mathematics Annual Conference "Graphing is Good for You!"  
**Co-Presenter** **February 2012**  
 Math Ed – An introduction to major theorems in graph theory in a way that can be brought to primary and secondary education.
- Western Business & Management Association International Conference "Disparate Impact: History and Mathematical Implications"  
**Presenter** **January 2011**  
 Applied Statistics – Contrast various used standards applied to hypothetical situations in order to demonstrate excessive vagueness in the law.
- Joint Meetings of the AMS/MAA "A Sufficient Condition for the Optimality of Huffman Encoding"  
**Co-Presenter** **January 2010**  
 Data Compression – My original proof of the optimality condition, in regards to entropy, for Huffman Encoding.

## PUBLICATIONS

- "Targeted Neck Cooling in the Treatment of the Migraine Patient"*  
 Hawai'i Journal of Medicine & Public Health **TBP 2013**
- "My First Mathfest"*  
 Journal of the Central California Mathematics Project **Fall 2010**

## LANGUAGES

- English – native language  
 Spanish – speak, read, and write with intermediate competence  
 German – speak, read, and write with basic competence

## MEMBERSHIPS

- American Mathematical Society

## REFERENCES

- Dr. Ralph Freese, Professor  
 Department of Mathematics  
 University of Hawai'i at Mānoa  
 2565 McCarthy Mall  
 Honolulu, HI 96822  
 (808) 956-9367
- Dr. Edward Hernandez, Professor  
 Department of Management, Operations, and Marketing  
 California State University, Stanislaus  
 1 University Circle  
 Turlock, CA 95382  
 (209) 667-3752
- Dr. Kenneth Hoover, Assistant Professor  
 Department of Mathematics  
 California State University, Stanislaus  
 1 University Circle  
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 (209) 667-3266
- Dr. Mirjana Jovovic, Assistant Professor  
 Department of Mathematics  
 University of Hawai'i at Mānoa  
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Dr. Melanie Martin, Associate Professor  
Department of Computer Science  
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Dr. J. B. Nation, Professor  
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