

## Michael Hewner

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INTERESTS Computer Science Education and Computer Science Education Research

EDUCATION **Georgia Tech**, Atlanta, Georgia

Ph.D., Human-Centered Computing, December 2012

- Area of Study: Computer Science Education
- Dissertation Topic: *Student Conceptions about the Field of Computer Science*
- Adviser: Professor Mark Guzdial
- Higher Education Teaching Certificate Level A

**University of Illinois at Urbana-Champaign**, Urbana, Illinois

M.S., Computer Science, May 2003

- Area of Study: Software Engineering, Object-Oriented Programming
- Thesis Topic: *Implementing the Tagged Integer Optimization on the .NET Virtual Machine*
- Adviser: Professor Ralph Johnson

B.S., Computer Science, December 2001

INSTRUCTOR OF RECORD

**Rose-Hulman Institute of Technology**, Terre Haute, Indiana

*Assistant Professor*

**Spring 2013 – Present**

CSSE 220: Intro to Object-Oriented Programming (freshman level course)

- Topics: java, object oriented design, basic algorithms and data structures
- Mixed instruction, in class programming, and projects
- Taught 5 times

CSSE 290: Advanced GIT (1 credit elective course)

- Topics: git internals, merging/rebasing, branch design
- Useful course that tends to get a lot of student interest
- Taught 2 times

CSSE 333: Databases

- Topics: SQL, DB design, web-integration
- Experimental version for freshman, part of a mixed summer internship/instruction partnership with Rose-Hulman Ventures
- Taught Summer 2016

CSSE 372: Software Project Management (junior level course)

- Topics: software processes, estimation, risk management, planning
- Discussion-oriented course
- Taught 2 times

CSSE 375: Software Construction and Evolution (junior level course)

- Topics: refactoring, advanced OO-design, large scale systems

- Lecture-based course with programming assignments and year long project
- Taught 2 times

CSSE 403: Programming Language Paradigms (senior level course)

- Survey of interesting languages: Prolog, Erlang, Elm
- Project-oriented course, but also regular lectures
- Taught 2 times

Also Taught

- CSSE290: Cyberdefense Competition
- CSSE332: Software Quality Assurance
- CSSE497, CSSE498: Senior Project
- CSSE376: Software Quality Assurance

### **Duke University**, Durham, North Carolina

*Visiting Instructor*

**Fall 2011 – Spring 2012**

CompSci 100: Data Structures (undergraduate course)

- Topics: algorithm design, objects, recursion, linked-lists, trees
- Lecture-based course with programming assignments and exams
- Taught 150+ students with another instructor in Fall, taught alone in Spring
- Developed lectures, wrote exams

CompSci 108: Software Engineering (undergraduate course)

- Topics: object-oriented design, programming large systems
- Project-oriented course, but also regular lectures
- Taught 40+ students, with another instructor in Fall, taught alone in Spring
- Developed lectures, developed projects and grading criteria

### **University of Washington**, Seattle, Washington

*Visiting Instructor*

**Summer 2008**

CSE143: Computer Programming II (undergraduate course)

- Topics: algorithm design, objects, recursion, linked-lists, trees
- Taught 80+ students
- Developed lectures, exams, managed TAs

### OTHER TEACHING EXPERIENCE

#### **Indian Institute of Technology Bombay**, Mumbai, India

*Visiting Assistant Professor*

**Summer 2014**

Qualitative Methods in Engineering Education (graduate seminar)

- Topics: interviewing, grounded theory, content analysis
- Also advised students on research topics/approaches
- 20 students

#### **Governor's Honors Program**, Valdosta, Georgia

A competitive 4-week summer program for high school juniors sponsored by the state of Georgia

*Instructor*

**Summer 2011, Summer 2012**

Introductory Delphi Programming (high school course)

- Topics: variables, functions, GUIs, Monte Carlo simulations, complex math
- 20 students

Intro to Automata Theory (high school course)

- Topics: different types of automata, incomputability, Turing–Church Thesis
- 15 students

Fractals (high school course)

- Topics: Iterated function systems, fractal dimension, chaos
- 15 students

## PUBLICATIONS

- M. Hewner and S. Mishra. *When Everyone Knows CS is the Best Major: Decisions about CS in an Indian context.* presented at Twelfth International Computing Education Research Workshop (ICER 2016). Melbourne, Australia, September 8-12, 2016.
- M. Hewner. *How Undergraduates Make Course Choices.* presented at Tenth International Computing Education Research Workshop (ICER 2014). Glasgow UK, August 11-14, 2014.
- M. Hewner. *Undergraduate Conceptions of the Field of Computer Science.* presented at Ninth International Computing Education Research Workshop (ICER 2013). San Diego, CA USA, August 12-14, 2013.
- M. Hewner and M. Guzdial. *How CS majors select a specialization.* presented at Seventh International Computing Education Research Workshop (ICER 2011). Providence, RI USA, August 8-9, 2011.
- M. Hewner and M. Guzdial. *What Game Developers Look for in a New Graduate: Interviews and Surveys at One Game Company.* presented at ACM Technical Symposium on Computer Science Education (SIGCSE 2010). Milwaukee, WI USA, March 10-13, 2010.
- A. Bruckman, M. Biggers, B. Ericson, T. McKiln, J. Dimond, B. DiSalvo, M. Hewner, L. Ni, S. Yardi. *‘Georgia computes!’: improving the computing education pipeline.* presented at ACM Technical Symposium on Computer Science Education (SIGCSE 2009). Chattanooga, TN USA, March 4-7, 2009.
- M. Hewner and M. Knobelsdorf. *Understanding Computing Stereotypes with Self-Categorization Theory.* presented at Koli Calling International Conference on Computer Science Education (Koli Calling 2008). Koli National Park, Finland, November 13 - 16, 2008.
- M. Hewner and M. Guzdial. *Attitudes about Computing in Postsecondary Graduates.* presented at Fourth International Computing Education Research Workshop (ICER 2008). Sydney, Australia, September 6-7 2008.

## INDUSTRY EXPERIENCE

**Rose–Hulman Ventures**, Terre Haute, IN

*Tech Lead*

**May 2016–July 2016**

- Manager and technical adviser for two teams of freshman CS students doing contract software development
- Experimental version for freshman, part of a mixed summer internship/instruction partnership with Rose-Hulman Ventures

**Indigo Bioautomation**, Indianapolis, IN

*Programmer*

**June 2015–August 2015**

- Wrote Ruby, Java code for mass spectrometer analysis toolchain

**Groupon**, San Francisco, CA

*Programmer*

**June 2013–August 2013**

- Wrote Objective-C (Ipad client-side) and python (django server-side) for Bread-crumbs point-of-sale app

**Zipper Interactive**, Seattle, Washington

*Video Game Programmer*

**May 2009–August 2009**

- Programmed C++ for two Playstation 3 first person shooter titles
- Interviewed developers about what they for in a programmer hire

**Amazon.com**, Seattle, Washington

*Software Engineer*

**June 2003–June 2006, January 2007–July 2007**

- Technical Lead for a 7 person team, coded many projects in C++ and Perl
- Promoted after 1.5 years to SDE II
- Developed “Ninja Coder” programming riddle project to attract job candidates
- Interviewed 100+ developer candidates

SERVICE

- Session Chair for SIGCSE 2012
- Coach of the Rose-Hulman CCDC Team, Security Club (Spring 2013 – Fall 2015)
- Coach of Duke Programming Competition Team (Fall 2011 – Spring 2012)
- Student representative on HCC Ph.D. Procedure Review Committee (Spring 2011)
- Paper reviewer for ICER, SIGCSE, and TOCE

REFERENCES

**J.P. Mellor**

Email: mellor@rose-hulman.edu; Phone: 812-877-8085

- Head of Dept. of Computer Science and Software Engineering, Rose-Hulman
- ◇ *Current boss*

**Mark Guzdial**

Email: guzdial@cc.gatech.edu; Phone: 404-894-5618

- Professor, Georgia Tech
- ◇ *Dissertation adviser*

**Owen Astrachan**

Email: ola@cs.duke.edu; Phone: (919) 660-6522

- Professor of the Practice, Duke University
- ◇ *Co-Instructor in Data Structures Course*

**Sally Fincher**

Email: s.a.fischer@kent.ac.uk; Phone: +44 (0)1227 824061

- Professor, University of Kent
- ◇ *Can speak to my qualifications as a CS Education Researcher*