

# MICHAEL P. CUTTER

Email: [mcutter@soe.ucsc.edu](mailto:mcutter@soe.ucsc.edu) • Homepage: <http://www.soe.ucsc.edu/mcutter/>

---

## RESEARCH INTERESTS

Computer Vision applied to Assistive Technology and Mobile Computing

## EDUCATION

<b>Ph.D. Computer Engineering</b>	<b>09/2010 - 06/2014 (Expected)</b>
<b>B.Sc. (Honors), Information Systems Management</b>	<b>September 2005 - June 2009</b>
<b>Minor in Statistics</b>	<b>September 2005 - June 2009</b>
<b>University Of California, Santa Cruz</b>	

- **Graduate Courses:** Analysis of Algorithms, Information Theory, Machine Learning, Bayesian Statistics, Computer Architecture, Digital Image Processing, Computer Vision, User Evaluation of Technology

## PUBLICATIONS

- Michael P. Cutter and Patrick Chiu. “Capture and Dewarping of Page Spreads with a Handheld Compact 3D Camera, 10th IAPR Workshop on Document Analysis Systems”, DAS12. Gold Coast, Australia, Mar. 2012.
- Faisal Shafait, Michael P. Cutter, Joost van Beusekom, Syed Saqib Bukhari, Thomas M. Breuel. “Decapod: A flexible, low cost digitization solution for small and medium archives”, 4th Int. Workshop on Camera-Based Document Analysis and Recognition, CBDAR11. Beijing, China, Sep. 2011. [Accepted as Springer LNCS post proceedings]
- Michael P. Cutter, Joost van Beusekom, Faisal Shafait, Thomas M. Breuel, “Font group identification using reconstructed fonts”, Document Recognition and Retrieval XVIII, in IS&T/SPIE Electronic Imaging 2011.
- Michael P. Cutter, Joost van Beusekom, Faisal Shafait, Thomas M. Breuel, “Unsupervised Font Reconstruction Based on Token Co-occurrence” in 10th ACM Symposium on Document Engineering, 2010.

## WORK EXPERIENCE

**Graduate Research Assistant University of California Santa Cruz Sept 2010 - present**

- Advised by Professor Roberto Manduchi
- Researching text detection and tracking algorithms for assistive technology purposes
- Designing guidance systems for people without sight and the visually impaired
- Conducting user studies
- Developing iOS applications.
- Developing in Matlab, Python, OpenCV and Objective C

**Software Development Intern A9 (Amazon Palo Alto) June 2012 - Sept 2012**

- Worked with the visual search team on the augmented reality product Amazon Flow
- Created a technique and implemented software that became part of Flow
- Developed in C++ and Matlab

**Research Intern Fuji Xerox Palo Alto Laboratory June 2011 - Sept 2011**

- Developed technology to dewarp page spreads using consumer grade 3D camera
- Work resulted in patent submission
- Developed in C++ and Matlab

**Research Intern IUPR Technische Universität Kaiserslautern June 2009 - Sep 2010**

- Advised by Professor Thomas M. Breuel
- Developed a novel technique to reconstruction fonts in documents
- Reviewed and wrote technical papers
- Collaborated with an international team of stakeholders
- Developed in Python and C++ for the open source Book Scanning project Decapod, and the OCR project, OCRopus

**Undergraduate Researcher University of California Santa Cruz May 2008 - June 2009**

- Advised by Professor Yi Zhang.
- Implemented information extraction and data-mining algorithms from literature
- Created a independent research project, Recoo, a personalized recommendation engine
- Created a mobile client on the Symbian platform for the Recoo project
- Developed in: C++, Python, and Perl

## TEACHING

**Teaching Assistant University of California Santa Cruz January 2013 - March 2013**

- Assisted Professor Roberto Manduchi teach CMPE 161 Sensor programming
- Responsible for lab, office hours, grading, and lesson planning

**Teaching Assistant University of California Santa Cruz Sept 2011 - Dec 2011**

- Assisted Professor Roberto Manduchi teach CMPE 80A Universal Access
- Held office hours and graded

## AWARDS

- National Science Foundation Graduate Research Fellowship Honorable Mention
- University of California Regent's Fellowship
- Deans Award - Undergraduate research project, Recoo the personalized mobile search engine
- National Science Foundation Undergraduate Student Research Fellowship 2008 - 2009
- Student Employment Recognition Award - for work completed at UC Santa Cruz's ITS 2008

## COMPUTER SKILLS

- Languages: Objective C, C/C++, Python
- Operating Systems: GNU/Linux, Solaris, Windows, iOS
- Databases: mySQL, PostgreSQL
- Mathematical: Numpy, Matlab, R
- Other: L<sup>A</sup>T<sub>E</sub>X, Office, Knitr, Visual Studio

## REFERENCES

- Available upon request