

JEFFREY B. COLE

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EMPLOYMENT OBJECTIVE

Full-time position as engineer working in computer vision, medical image processing, and/or signal processing

EDUCATION

MASTERS IN ELECTRICAL ENGINEERING (expected, December 2007) University of Washington
Specializing in digital signal processing and image analysis GPA: 3.83

BACHELOR OF SCIENCE IN OPTICAL ENGINEERING University of California, Davis
Graduated with Honors, June 2003 Major GPA: 3.73
Ranked 1st in graduating class of optical engineers

AWARDS AND HONORS:

Bronze Medal for Innovation from BAE Systems for developing a radial distortion calibration technique
Gray Fellowship for Electrical Engineering (2005)
Departmental Citation for Outstanding Undergraduate Accomplishment in Optical Science Engineering (2003)
Sanders Wilson Award for Undergraduate Achievement from the Department of Applied Science (2003)
Golden Key Honor Society (1999-2003)

RELATED COURSEWORK:

Graduate Level: Digital Signal Processing, Probability and Random Processes, Data Structures and Algorithms, Artificial Intelligence, Statistical Learning and Pattern Recognition, Computer Vision, Image Processing and Computer Systems, Computer Graphics, Advanced Color Image Processing. Undergraduate Level: Digital Image Processing and Computer Vision, Advanced Numerical Methods and Algorithms, Optical System Design, Scientific Writing

WORK HISTORY

Microsoft Research Redmond, WA
Intern 6/07 to 9/07

- Developed and tested algorithms for voice recognition systems
- Programmed insertion, query, and scoring algorithms for low power databases in embedded devices
- Conceived and demonstrated uses of computer vision for small personal computing devices

University of Washington Seattle, WA
Research Assistant / Teaching Assistant 7/05 to present

- Developing image processing algorithms for 3D pose estimation from monocular image sequences.
- Parallel programming for real-time video processing using a Linux cluster
- Work on image processing algorithms for automatic detection of diabetic retinopathy
- Non-linear dimensionality reduction for useful display of hyperspectral images
- Explore techniques for object tracking in highly cluttered video sequences
- Teaching assistant for an undergraduate course on digital image processing

iConcertCal Inc. Seattle, WA
Co-Founder / President 9/06 to present

- Conceived, designed, and built a cross-platform plug-in for iTunes that monitors a user's music library and creates a personalized calendar of upcoming concerts in their town
- Extensive programming work improving features and functionality, releasing new versions, customer support, business relations with companies providing concert data, publicity, and website maintenance
- iConcertCal has been reviewed extensively and was recently featured in Spin Magazine, GQ, Paste Magazine, and Esquire
- iConcertCal was downloaded more than 100,000 times within the first 3 months of being publicly available

BAE SYSTEMS SPECTRAL SOLUTIONS

Honolulu, HI

Optical Engineer

7/03 to 7/05

- Developed lab procedures and software for characterization and calibration of hyperspectral and multispectral imaging systems for automatic target detection in remote sensing and medical imaging
- Characterized noise parameters of various CCD technologies
- Developed lab procedures and software to characterize and correct for geometric lens distortions
- Developed procedures and software to characterize and align optical components in imaging systems

KOLNER ELECTRO OPTICS RESEARCH LABORATORY at UC DAVIS

Davis, CA

Optics Lab Assistant

1/03 to 6/03

- Designed and built a spatial profiler to analyze laser beam widths using a CCD camera
- Designed, programmed and developed a graphical user interface for spatial profiler using LabVIEW
- Automatically generates primary and secondary axis, intensity cross-sections, 3-D intensity graphs and Gaussian curve fits to determine a beam's geometry
- Wrote an extensive user's manual (www.leorg.ucdavis.edu/articles/beamprofilerusermanual.pdf)
- Built and configured an HP-UX server for lab's local area network

UNITED STATES GEOLOGICAL SURVEY

Menlo Park, CA

Computer Assistant Intern

6/01 to 10/01

- Designed and implemented software applications for the study of water flow in the San Francisco Bay
- The programs generated polygon mesh-grids from topographic images and optimized mesh characteristics for fluid flow analysis
- Wrote an extensive user guide to explain programs and the process of polygon mesh-grid creation
- Performed fieldwork and collected water flow data in the San Francisco Bay

COMPUTER SKILLS

Programming Languages: C/C++, C#, Java, Matlab, LabVIEW, OpenGL, HTML, JavaScript, Flash, PHP, SQL
Platforms: Windows, Linux

JOURNAL PAPERS

N. P. Jacobson, M. R. Gupta, J. B. Cole, "Linear fusion of image sets for display," IEEE Trans. On Geoscience and Remote Sensing, to appear

CONFERENCE PAPERS

Jeffrey B. Cole, David P. Grimes, Rajesh P.N. Rao, "Learning Full-Body Motions from Monocular Vision: Dynamic Imitation in a Humanoid Robot," IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS (2007)

M. J. DeWeert, J. B. Cole, A. W. Sparks, A. Acker, "Photon transfer methods and results using EMCCDs," SPIE 49th Annual Conference, Aug 2004

E. Tsiang, J. B. Cole, M. J. DeWeert, A. W. Sparks, J. Fisher, D. Yoon, G. Sawai, T. Glover, "Application of a figure-of-merit for optical remote sensors to an airborne hyperspectral sensor," SPIE 49th Annual Conference, Aug 2004

PATENTS

K. Mukerjee, D. Thompson, B. Hertzberg, J. Cole, B. Meeder – "Self-Compacting Pattern Indexer: Storing, Indexing and Accessing Information In A Graph-Like Data Structure", filed Oct 2007, ref number: 11/923,430