Chen-Ping Yu, Curriculum Vitae
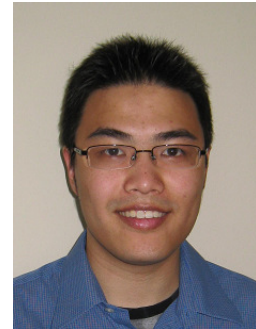
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US Citizen

PROFILE

Skilled research scientist with Masters degree in computer science, in the area of computer/biological vision and machine learning. Strong background in computational neuroscience and modeling analysis. Experiences include statistical models of pattern recognition and machine learning, biologically inspired computer vision, automatic tumor segmentation in neuroimage analysis, and computational modeling of cortical neurons for self-motion perception.

EDUCATION

M.S. – Computer Science and Engineering   2008 - present
GPA: 3.52/4.0
Pennsylvania State University – University Park
Research area: Computer vision, machine learning, and neuroimage analysis.

M.S. – Computer Science   2006-2008
GPA: 3.89/4.0
Rochester Institute of Technology
Research Area: Computational neuroscience, modeling analysis, biologically inspired machine vision.

B.S. – Computer Science, minor in Psychology   2000-2005
GPA: 2.71/4.0
Rochester Institute of Technology

HONORS AND AWARDS

Penn State University, Department of Computer Science and Engineering
College of Engineering Fellowship   2009

RIT, Department of Computer Science
Outstanding Graduate Student Award   2008
Graduate Scholarship Grant   2006-2008
Dean's Lists   2005

ORGANIZATION MEMBERSHIPS

Society for Neuroscience student member
ACM student member
IEEE student member

Journal Publications

C. Yu, W. Page, R. Gaborski, and C. Duffy, "Receptive Field Dynamics Underlying MST neuronal Optic Flow Selectivity." Journal of Neurophysiology, accepted, Nov 2009.

Conference Publications

C. Yu, R. Collins, D.T.D. Nguyen, and Y. Liu, Anonymous Submission, International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI), under review, March 2010.

C. Yu, C. Duffy, W. Page, and R. Gaborski, "Computational model of cortical neuronal receptive fields for self-motion perception." IEEE Applied Imagery and Pattern Recognition (AIPR) Workshop, Oct 2009.

Technical Reports

C. Yu, G.C.S. Ruppert, A.X. Falcao, D.T.D. Nguyen, and Y. Liu, "Statistical Asymmetry-based Fully Automatic Brain Tumor Segmentation From 3D MR Images." PSU CSE 09-015, CMU Robotics Institute TR-09-44, Nov 2009.

G.C.S. Ruppert, L. Teverovskiy, C. Yu, A.X. Falcao, and Y. Liu, "A Comparison Study of Neuroimage Midsagittal Plane Extraction Algorithms." PSU CSE 09-014, CMU Robotics Institute TR-09-43, Nov 2009.

Conference Poster Presentations

C. Yu, W. Page, R. Gaborski, and C. Duffy, "Modeling MST optic flow responses using receptive field segmental interactions." Society for Neuroscience, Oct 2008, Washington D.C.

C. Yu, W. Page, R. Gaborski, and C. Duffy, "Modeling the receptive field organization of optic flow selective MST neurons." Society for Neuroscience, Nov 2007, San Diego, CA.

Master's Thesis

C. Yu, "Computational model of MST neuron receptive field and interaction effect for the perception of self-motion." RIT, May 2008.

Research Assistant   Sept. 2008 - present

Pennsylvania State University, University Park, PA
Laboratory for Perception, Action, and Cognition (LPAC)

Conduct research in the area of computer vision, specifically in statistical and symmetry-based automatic segmentation in medical imaging related topics under Dr. Yanxi Liu.

- Experiment with statistical models in pattern recognition and machine learning.
- Develop algorithms in unsupervised methods for automatic tumor segmentation.
- Contribute to the deformable brain MRI registration and classification pipeline.

Develop regularity-based object recognition algorithms for real world images.

- Explore rotational, reflection, and translation symmetry features.
- Experiment with different machine learning feature selection methods and classifiers.

Research Assistant   May 2009
Carnegie Mellon University, Pittsburgh, PA
Robotics Institute (RI)

3D neuroimage processing for Computer Aided Diagnosis of Alzheimer's Disease.

- Data sorting, validation, and mining using machine learning and pattern recognition techniques.

- Journal paper publication preparation.

Teaching Assistant   Sept. 2008 - present
Pennsylvania State University, University Park, PA
Department of Computer Science and Engineering

Assisted and instructed undergraduate students in classroom and laboratory settings.

- Assisted in Data Structure and Algorithms.

- Assisted in Intro to Computer Graphics.

- Assisted in Scientific programming using Matlab.

Graduate Student   Sept. 2006 - June 2008
Rochester Institute o Technology, Rochester, NY
Laboratory for Computational Studies

Pursued Masters degree in computer science, in the area of computer vision and computational neuroscience. Masters thesis was a joined effort under RIT Intelligent Systems Laboratory led by Dr. Roger Gaborski and URMC Cognitive Neuroscience Laboratory led by Dr. Charles Duffy.

- Studied advanced algorithms in evolutionary computing, optimization, statistical modeling,

    biologically inspired modeling, biological visual perception, and computer vision.

- Developed computational model for MST single neurons.

Analyst Programmer/Research Assistant   Nov. 2004 – June 2008
University of Rochester Medical Center, Rochester, NY
Cognitive Neuroscience Laboratory

Developed and implemented software to assessing impaired human navigation in Alzheimer's disease under Dr. Charles Duffy.

- Worked with Quake 3 engine code in C.

- Utilized RRD Tool for automated plot generation.

- Implemented Perl scripts for other automation tasks.