

Di Wang

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132 W Constitution St Apt G, Norman, OK 73072

Research Interests

- Shape-based 3D object recognition and pose estimation
- Vision/tactile-based robotic grasping, particularly on novel objects
- Developmental robotics that involves the interplay of supervised- and reinforcement-style learning algorithms
- Robot learning through human demonstration
- Brain-machine interfaces for advanced prosthetic devices
- Added reality interface and augmented reality devices

Education

PhD Computer Science University of Oklahoma, Norman, December 2011

Dissertation: Learning Visual Features that Predict Grasp Type and Location

Advisor: Dr. Andrew H. Fagg GPA: 4.0/4.0

MS Computer Science University of Oklahoma, Norman, December 2007

Thesis: A 3D Feature-based Object Recognition System for Grasping

Advisor: Dr. Andrew H. Fagg GPA: 4.0/4.0

BE Electronic Engineering Dalian University of Technology (DUT), China, July 2004
GPA: 3.6/4.0

Research Experience

Graduate Research Assistant University of Oklahoma, Norman, OK (2005-2011)
Symbiotic Computing Laboratory

Developed force/torque-based controller for grasp contact placement
Focused on brain-machine interfaces for advanced prosthetic devices

Robot Contest Team Member Dalian University of Technology, China (2003-2004)

Designed control system for wheeled mobile robots
Built a mobile multi-handed robot

Research Assistant Dalian University of Technology, China (2002-2003)

Designed class experimental equipment

Teaching Experience

Graduate Teaching Assistant University of Oklahoma, Norman, OK (2007-2011)

Introduction to Engineering (2 semesters)
Embedded Systems (4 semesters)
Embedded Real-Time Systems (3 semesters)

Student Mentor University of Oklahoma, Norman, OK (2007-2009)
NSF Research Experience for Undergraduates (REU)
Program

Focused on face detection and robotic vision

Skills

- Programming languages: C, C++, MATLAB, OpenGL, VHDL, Java (can quickly become proficient in other languages)
- Programming projects and courses: Features-based object recognition and pose estimation (familiar with SIFT, SURF, Shape Context, Pair of Adjacent Segment features), Multiple View Geometry in Computer Vision, Computer Graphics, Embedded Real-Time Systems, Robotic grasping of novel objects, Machine Learning, Artificial Intelligence, Probabilistic Modeling and Inference
- Other: Circuit design and soldering, LATEX, AutoCAD, 3D Studio Max

Publications

Wang, D., Watson, B. T., Fagg, A. H., 2007, A Switching Control Approach to Haptic Exploration for Quality Grasps, *Proceedings of the Robotics: Science & Systems 2007 Workshop on Sensing and Adapting to the Real World*, Electronically Published

de Granville, C., **Wang, D.**, Southerland, J., Platt, Jr. R., and Fagg, A. H., 2009, Grasping Affordances: Learning to Connect Vision to Hand Action, *The Path to Autonomous Robots; Essays in Honor of George A. Bekey* (Gaurav S. Sukhatme, Ed.), Springer

Fagg, A. H., Hatsopoulos, N. G., London, B., Reimber, J., Solla, S., **Wang, D.**, Miller, L. E., 2009, Toward a Biomimetic, Bidirectional, Brain Machine Interface, *IEEE Engineering in Medicine and Biology Society*

Presentations

Wang, D., 2008, "A Feature-Based Aspect Recognition Algorithm," OU Spring Research Conference, April 2008

Wang, D., 2011, "Learning Visual Features that Predict Grasp Type and Location," OU Spring Research Conference, April 2011

Professional Experience

Project Manager Dalian JianYuan Software System Co.,Ltd., China (2004-2005)

Developed control software for semiconductor measurement device

Honors and Awards

- Computer Science Graduate Foundation Fellowship, University of Oklahoma (2008-2011)
- Medal of Excellence, CCTV University Robot Contest, China (2004)
- First Prize, Mechanical Design Contest, Liaoning Province, China (2004)
- Second Prize, National Mechanical Innovative Design Contest, Northeast Region, China (2004)
- Outstanding Student Award, School of Electronic and Information Engineering, DUT (2002)
- First Class Scholarship, Outstanding Student Award, DUT (2001)
- Third Prize Winner, Advanced Mathematics Contest, DUT (2001)