Joseph John Pfeiffer, III

School Address

Department of Computer Science
University of Colorado at Boulder
430 UCB
Boulder, CO 80309-0430

EDUCATION

Master of Science, Computer Science
University of Colorado, Boulder, CO GPA 3.93 *Expected* May 2009

Bachelor of Science, Computer Science
Supplemental Major, Mathematics
New Mexico State University, Las Cruces, NM GPA 3.98 December 2006

HONORS

Outstanding Senior for the College of Arts and Sciences (New Mexico State University, Fall 2006)
Department of Computer Science at the University of Colorado at Boulder Fellowship Recipient (Fall 2007)
Graduated with High Honors (New Mexico State University, Fall 2006)
Crimson Scholar (New Mexico State University)
Outstanding Cooperative Education Student (NASA, Spring 2006 and Summer 2007)
Phi Kappa Phi National Honor Society
Alpha Chi National Honor Society

PROFESSIONAL EXPERIENCE

National Aeronautics and Space Administration (NASA)
Johnson Space Center, Houston, TX (Co-op Assignment)

- Automation, Robotics, and Simulation Division (ER2)
  - Various Tasks May - August, 2008
    - Compare the A* and D* path planning algorithms, both in simulation and implementing on an iCreate roomba robot, in both static and dynamic environments.
    - Apply various Reinforcement Learning techniques to Contact Relative Motions and robotic hand grasping.
    - Research various Error Correcting Code schemes towards application in flight computers.
  - Procedure Reference Language January - August, 2007
    The Procedure Reference Language (PRL) is a XML based language developed at Johnson Space Center to run sequences of commands that is easily programmable through a designer. The PRL Executor takes the XML generated by the designer and interfaces with the device, executing the commands found in the XML, checks telemetry data from the device, and evaluating conditions on whether or not to continue.
  - Science Crew Operations and Utility Testbed (SCOUT) Rover May - August, 2006
    SCOUT is a rover designed at Johnson Space Center to assist humans on the moon or on Mars. Being a testbed, the main purpose was software development. I was involved with writing a weather

monitor, a power monitor, and a GPS monitor for the vehicle. I was the first undergraduate coop to have code installed on the vehicle.

- Energy Systems Test Branch (EP6) May - August, 2005
  - Develop database and web forms for maintaining a log of test being conducted by the test branch.
  - Develop database and search engine for searching papers related to In-Sitr Resource Utilization.

University of Colorado
Boulder, CO

- Teaching Assistant January - May, 2008
  Assisted in teaching Sophomore level data structures class. Lead two recitations a week, graded homework, and held office hours.
- Research Assistant August - December, 2007
  Assisted on the DARPA Learning Applied to Ground Robotics project. Implemented local path planning using an image cylinder. Experimented with Image Space Verification of Global planning and Fast Local Cylindrical Planning.

National Aeronautics and Space Administration (NASA) (Co-op Assignment)
White Sands Test Facility, Las Cruces, NM

- Engineering
  - Data Acquisition January - May, 2006
    Set up data acquisition system from test areas to computers. Experiment with various real-time systems and test the pseudo-real-time capabilities of Windows Embedded.
  - Engineering Website
    Set up various functions and databases for the engineering branch of White Sands Test Facility, to keep track of various projects that were under construction.
  - Visitor Website January - May, 2005
    Develop website and database for maintaining a list of all visitors to White Sands Test Facility. Included separate access for managers and employees, as well as a signature interface for visitors to sign.

New Mexico State University
Las Cruces, NM

- Undergraduate Research Assistant August - December, 2006
  Worked with predicting and characterizing 3D protein structures.

PUBLICATIONS

S. Ghosh, J. J. Pfeiffer, III, and J. Mulligan. *Title Withheld Due to Conference Request*. Submitted to *IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, 2009.

M. Otte, D. Knights, J. J. Pfeiffer, III, J. Mulligan, and G. Grudic. New Techniques for Path Planning in Image Space. Submitted to *IEEE International Conference on Robotics and Automation*, 2009.

CLASSES

Machine Learning, Computer Vision, Artificial Intelligence, Google Pagerank and High-Dimensional Data, Computer Architecture I & II, Numerical Linear Algebra, Computer Graphics, Operating Systems, Compilers, Software Engineering, Combinatorics, Abstract Algebra

COMPUTER LANGUANGES

C++, C, Java, Matlab, Perl, VBScript, Php, SQL

ACTIVITIES

FIRST Lego League - Volunteer Technical Judge, Houston Habitat for Humanity, New Mexico State University Symphonic Wind Ensemble (Fall 2002 - Fall 2005), New Mexico State University Pride Marching Band (Fall 2002 - Fall 2004), ACM Programming Competitions (3-time New Mexico State Local Champion), Ultimate Frisbee, Snowboarding, Water Skiing, Volleyball, Softball, Tennis, Soccer, Hiking

References Available Upon Request