

Dominic Jonak

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- Education:** Carnegie Mellon University, Pittsburgh, PA
Bachelor of Science in Computer Science, 2003
Phi Beta Kappa, College Honors, University Honors
- Positions:** Carnegie Mellon University, Pittsburgh, PA 2003 - current
Field Robotics Center, Robotics Institute
· Senior Research Programmer (2007)
· Research Programmer (Fall 2003)
· Research Assistant (Spring 2003)
- Selected Projects:** Lunar Rover Initiative (LRI) 2007 - current
· Field tests at Moses Lake Dunes, WA (2 weeks) and Mauna Kea, HI (2 weeks)
· Responsible for navigation, plan execution and operator interface
· Demonstrated long (8+ hours) autonomous traverses in darkness
· Wrote and debugged controllers for serial devices
· Created http-compliant server interface used by remote partners
· Maintained system architecture, code repository and build system
- Science Autonomy/Science on the Fly (SOTF) 2005 - 2007
· Field test at Amboy Crater, a lava flow in California (4 weeks)
· Developed multi-sensor multi-scale mesh navigation system
· Created 3D visualizations of rover maps
- Deep Phreatic Thermal Explorer (DEPTHX) 2006 - 2007
· Field tests at Sistema Zacaton, sinkholes in Mexico (4 weeks/3 trips)
· Responsible for navigation, plan execution and fault detection
· Developed interactive operator interface and improved realtime visualization
· Maintained system architecture, code repository and build system
- Life in the Atacama (LITA) 2003 - 2006
· Field tests at the Atacama desert in Chile (10 weeks/2 trips)
· Worked with science team to improve rover utilization
· Maintained system architecture using interprocess message definitions
· Improved navigation software to realize reliable kilometer traverses
· Analyzed rover performance under various metrics
- Outreach:** Public demonstrations
· Imiloa Astronomy Center of Hawaii in Hilo, HI (LRI - 2008)
· Carnegie Science Center in Pittsburgh, PA (2008)
· Arizona State University in Tempe, AZ (SOTF - 2007)
· Museo Interactivo Mirador in Santiago, Chile (LITA - 2005)
- Public relations
· Designed postcards to handout to the public (LRI, DEPTHX)
· Wrote illustrated field notes (LRI, DEPTHX)
· Maintained project website (LRI, DEPTHX, LITA)
- Popular media
· Provided quotations and images to journalists (IEEE Spectrum, Popular Science)
· Interviewed for *Almost Human* (by Lee Gutkind) and *The Universe* (History Channel)
- Selected Publications:** Experiments in Navigation and Mapping with a Hovering AUV
George A. Kantor, et al
International Conference on Field and Service Robotics, 2007
- Life in the Atacama: Searching for life with rovers (science overview)
Nathalie A. Cabrol, et al
Journal Geophysical Research, 112, G04S02, doi:10.1029/2006JG000298, 2007
- Second Experiments in the Robotic Investigation of Life in the Atacama Desert of Chile
David S. Wettergreen, et al
International Symposium on Artificial Intelligence, Robotics and Automation in Space, 2005