

Daniel R. Karrels

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| CONTACT INFORMATION | Department of Electrical and Computer Engineering Air Force Institute of Technology 2950 Hobson Way Wright-Patterson AFB, OH 45433 USA | Voice: (937) 255-3636 E-mail: dan@karrels.com |
| SECURITY CLEARANCE | Department of Defense Top Secret/SCI Eligible | |
| CITIZENSHIP | USA | |
| RESEARCH INTERESTS | Large-Scale Distributed Systems, Artificial Intelligence, Coalition Formation, Multi-Agent Systems | |
| EDUCATION | Air Force Institute of Technology , Dayton, OH USA PhD, Computer Engineering, September 2009 <ul style="list-style-type: none">• Dissertation Topic: Large-Scale Distributed Coalition Formation• Advisor: Dr. Gilbert Peterson• Area of Study: Artificial Intelligence University of Florida , Gainesville, FL USA M.S., Computer Engineering, December 2003 <ul style="list-style-type: none">• Thesis Topic: Internet Relay Chat Services Framework: GNUWorld• Advisor: Dr. Joseph Wilson• Area of Study: Distributed Systems B.S., Computer Engineering, August 1999 <ul style="list-style-type: none">• Minor in Mathematics | |
| PUBLICATIONS | Karrels, D. R. "Large-Scale Distributed Coalition Formation." <i>Dissertation, Air Force Institute of Technology, September 2009.</i> Karrels, D. R. & Peterson G. & Mullins B. "Large-Scale Coalition Formation Using RC-Chord." <i>Journal of Autonomous Agents and Multi-Agents Systems</i> (submitted). Karrels, D. R. & Peterson G. & Mullins B. "Structured P2P Technologies for Distributed Command and Control." <i>Peer-to-Peer Networking and Applications.</i> Karrels, D. R. & Peterson G. & Mullins B.. "RC-Chord: Resource Clustering in a Large-Scale Hierarchical Peer-to-Peer System." <i>IEEE, Military Communications Conference, October 2009.</i> Karrels, D. R. & Peterson, G. "CyberCraft: Protecting Air Force Electronic Systems with Lightweight Agents." <i>Proceedings of the Cyberspace Research Workshop, 2007, 58-62.</i> McDonald, T. & Peterson, B. & Karrels, D. & Andel, T. & Raines, R. "Guarding the Cybercastle in 2020." <i>IANewsLetter Fall 2008.</i> | |
| PROFESSIONAL EXPERIENCE | United States Air Force <i>Air Force Institute of Technology</i> , Wright-Patterson AFB, OH USA August 2006 to Present <ul style="list-style-type: none">• PhD Student | |

46th Test Squadron, Eglin AFB, Florida USA **May 2004 to August 2006**

- Lead test engineer for Aerospace Operations Center (AOC) and unit level Command and Control (C2)
- Responsible for developing, building, and instrumenting test networks for integrated AOC weapon systems
- Test engineer for Deployable Joint Command and Control (DJC2) and Joint Warning and Reporting Network (JWARN)
- Squadron Public Key Infrastructure representative for DoD-wide authentication upgrades

K & B Instrumentation

Dade City, FL USA

December 2000 to March 2002

- Install, calibrate, test, and troubleshoot instrumentation for water and wastewater systems
- Develop and test Programmable Logic Controller software
- Develop, install, and test Supervisory Control and Data Acquisition hardware and software systems

University of Florida

Department of Astronomy, Gainesville, FL USA

January 1999 to December

2000 and March 2002 to December 2003

- Develop software to manipulate world's largest telescopes in Chile, Canari Islands, and Hawaii
- Build interface software to capture and distribute deep space imagery
- Integrate systems across operating systems and programming languages
- Software testing and systems administration

TECHNICAL SKILLS

- Programming languages: C, C++, Java, C#, LUA, bash, csh, SQL, RCS, CVS, SVN
- Programming paradigms: structured, object oriented, distributed, parallel, clustered systems
- Experience developing software in Windows and Unix/Linux environments
- Applications: L^AT_EX, B_IB_TE_X, Microsoft Office, Adobe products, Matlab, Mathematica, OPNet, and many others