

Daniel T. Casner
Master's of Science Candidate
Center for Automation Technologies and Systems (CATS)
Rensselaer Polytechnic Institute

Research Description:

Distributed sensor networks use a large number of relatively simple, low power nodes to accomplish tasks more efficiently than a single powerful centralized system. However, their distributed nature makes managing them more complex. Adding mobility to the nodes makes the problem even more complex. My research is on maintaining connectivity between moving nodes by moving a subset of them as if they were acted upon by virtual forces created by the other nodes.

Advisor: Arthur Sanderson

Thesis Title: Connectivity enhancement in mobile distributed sensor networks through virtual potential fields.

Education

Lawrence University, Appleton, Wisconsin, USA
B.A., Physics, 2006 (GPA: 3.6)

Work Experience

- Robotics Engineer, Anybots Inc., Summer 2007
- Technical Scholar, DOE Joint Genome Institute, Summer 2006
- Research Associate, Monterey Bay Aquarium Research Institute, Summer 2005
- Software Engineer, Miller Electric, Summer 2004 through Spring 2007
- Computer Science Tutor, Lawrence University, 2005-2006
- English Teacher, Tsuga Elementary School Chiba Japan, Spring 2005
- Presenter, Barlow Planetarium, 2002-2004

Skills

- Environments: Embedded systems, Linux, Unix, TinyOS, Windows CE and Windows 32
- Programming languages: C/C++, Python, MATLAB and many others
- Foreign language: Fluent in Japanese

Honors

- Inducted to Sigma Pi Sigma National Physics Honor Society, May 2005
- Awarded the Henry Merritt Wriston Scholarship for academic excellence, 2003
- Inducted to Lambda Sigma Honor Society, June 2003
- Awarded the Lawrence University Trustee Scholarship, 2002
- Received Kohl Academic Excellence Award, 2002

Publications and Patents

- D. Casner, J. Baumohl, A. Copeland, J. Dillon, D. Pletcher
[Closed Loop Tuning of Gene Sequencing Run Times](#)
[Lawrence Livermore National Lab](#) 2006 Student Poster Symposium

Memberships and Activities

- IEEE
- FIRST LEGO League mentoring

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