

# Robert S. Margolies

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<b>Education:</b>	<b>Columbia University</b> , New York, NY Department of Electrical Engineering <b>Degree:</b> Ph.D. Electrical Engineering <b>Degree:</b> M.S. Electrical Engineering (Received Oct. 2011), Final GPA 3.94 <b>Research Interests:</b> Computer Communications Networks, Wireless Ad Hoc Networks, Sensor Networks, Mobile Networks <b>Advisor:</b> Prof. Gil Zussman	Fall 2010 - Present
	<b>Rensselaer Polytechnic Institute</b> , Troy, NY Department of Electrical, Computer, and Systems Engineering (ECSE) <b>Degree:</b> B.S. Electrical Engineering, Minor-Management Technology <b>Concentration:</b> Communications and Information Processing, Computer Networks <b>Final GPA:</b> 4.0   <i>Summa Cum Laude</i>   3 years	Fall 2007 – Spring 2010
<b>Honors and Awards:</b>	<b>ACM SenSys'11 Best Student Demo Award</b> <b>NSF Graduate Research Fellowship Recipient</b> Egleston Doctoral Fellowship Recipient SMART Scholarship Recipient (declined) Palmer Ricketts Prize for Outstanding Academic Success in Electrical Engineering Class of 2010 Academic Achievement Award Honors Convocation – 4.0 Award Tau Beta Pi – The Engineering Honor Society Eta Kappa Nu – Electrical and Computer Engineering Honor Society Rensselaer Leadership Award RPI Deans List	<b>Fall 2011</b> <b>Spring 2011</b> Spring 2011 Spring 2011 Spring 2010 Fall 2009 Fall 2009 Fall 2008 Fall 2008 Fall 2007 2007 - 2010
<b>Academic Experience:</b>	<b>Columbia University</b> , New York, NY <i>Research Assistant</i> , Department of Electrical Engineering <ul style="list-style-type: none"><li>- <b>Energy Harvesting Active Network Tags (EnHANTs):</b> Conducting research on MAC layer protocols for low power ultra-wideband (UWB) enabled devices. Working as part of an interdisciplinary team to design, integrate, and test UWB Enabled EnHANT prototypes. Led the system integration and presented demonstrations at ACM SenSys'11 and ACM MobiSys'11.</li><li>- <b>Dynamic Resource Fragmentation:</b> Analyzing fragmentation in dynamic resource systems (cognitive radio networks, hard disk drives, solid state disk drives) which exploit temporarily available 'discrete spaces' in a resource to improve system performance and utilization. Developing an analytical model as well as a simulation tool to study how file fragmentation in solid state disk drives affects performance.</li></ul>	Fall 2010 – Present
	<b>Rensselaer Polytechnic Institute (RPI)</b> , Troy, NY <i>Research Assistant</i> , Center for Pervasive Computing and Networking Created a sleep scheduling algorithm for mobile wireless sensor networks. Developed and analyzed efficient algorithms to determine the sleep-wake schedules of the sensors with the objective of maximizing the lifetime of networks for a given quality of service.	Fall 2009 – Spring 2010
	<i>Developer</i> , RPI Center for Open Source Software (RCOS) RCOS creates software to better serve the RPI community. Developed instant messaging application to distribute information to RPI student population using Ruby. Assisted in the development of an inventory system for local companies.	Fall 2008 – Fall 2009

**Hardware Programmer**, Center for Automation Technology Systems (CATS) Spring 2008 – Spring 2009  
Developed software to enable a robot to operate wirelessly using socket programming in Linux.

**Industry Experience:** **ITT Electronic Systems**, Clifton, NJ Summer 2010  
**Summer Intern – Systems Engineering**

Designed and documented a military signal jamming radio. Worked with systems engineering to analyze and document the electrical signals passing between various subsystems.

**BAE Systems Incorporated**, Wayne, NJ Summer 2008 – Summer 2009  
**Technical Intern II**

Took part in field testing, debugging, and enhancement of multi-hop military radio networks. Achieved multi-hop ad hoc voice and data communication in mobile vehicles using a combination of satellites and point to point connectivity.

**Leadership:** **CIA NSF ERC Student Leadership Council**, New York, NY Fall 2010 – Present  
**Secretary**

Serving as an active member of the Student Leadership Council (SLC) for the Columbia University local chapter of the Center for Integrated Access Networks (CIAN) NSF Engineering Research Center (ERC).

**RPI Residence Life**, Troy, NY Spring 2009 – Spring 2010  
**Resident Assistant**

Responsible for community development in a freshman residence hall. Trained in activity programming, counseling, leadership, and administrative skills. Involved in the development of Residence Life program. Resolved conflicts and served as a role model and floor leader. Tutored freshman in physics, calculus, and computer science.

**Tau Beta Pi: The Engineering Honor Society**, Troy, NY Spring 2009 – Fall 2009  
**Treasurer**

Handled finances and budget of approximately \$5,000. Organized activities and initiation of new members. Involved in planning and implementing community service projects.

**Teaching Experience:** **Columbia University, Electrical Engineering Department**, New York, NY Fall 2011  
**Teaching Assistant**, Computer Networks

Introductory networking course where students learn through lectures, networking experiments, and programming assignments. Responsible for grading, holding office hours, and handling overall course coordination.

**RPI, Electrical Engineering Department**, Troy NY Fall 2009  
**Teaching Assistant**, Laboratory Introduction to Embedded Control

Studio course where students are expected to learn through experimentation. Worked directly with students to debug software and hardware. Explained concepts such as control theory, microprocessor systems, and circuit analysis/design.

**RPI Dean of Students Office**, Troy, NY Fall 2009  
**Volunteer**, Tutor Time Program

Program designed to help increase elementary students' self-esteem and confidence while creating an environment where they can learn. Voluntarily tutored local elementary school students in Math, English, and Science.

**Publications:** G. Stanje, P. Miller, J. Zhu, A. Smith, O. Winn, R. Margolies, M. Gorlatova, J. Sarik, M. Szczodrak, B. Vignraham, L. Carloni, P. Kinget, I. Kymissis, and G. Zussman, "Demo: Organic Solar Cell-equipped Energy Harvesting Active Networked Tag (EnHANT) Prototypes", in *Proc. ACM SenSys'11*, Seattle, WA, Nov. 2011. **Best Student Demo Award.**

J. Zhu, G. Stanje, R. Margolies, M. Gorlatova, J. Sarik, Z. Noorbhaiwala, P. Miller, M. Szczodrak, B. Vignraham, L. Carloni, P. Kinget, I. Kymissis, G. Zussman, "Demo: Prototyping UWB Enabled EnHANTs", in *Proc. ACM MobiSys '11*, Washington, DC, June 2011.

**Technical Skills:** Programming Languages: C, C++, Flash, Java, HTML, JScript, Matlab, Python, Ruby  
Development Environments: Dreamweaver, Eclipse, Textpad, Visual Studio  
Databasing: MS Access, SQL, PostgreSQL  
Other: MS Project, Visio, Word, Excel, PowerPoint, Maple