

Curriculum Vitae

Adam C. Harris

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Education

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|---|------------------------|
| The University of North Carolina at Charlotte, NC
B.S. Electrical Engineering Technology
Cumulative GPA: 2.8
Major GPA: 3.4 | August 2003 – May 2008 |
| The University of North Carolina at Charlotte, NC
M.S. Electrical Engineering
Anticipated Graduation May 2011
Graduate GPA: 3.6 | August 2008 – May 2011 |
| The University of North Carolina at Charlotte, NC
PhD. Software and Information Systemsca
Anticipated Graduation May 2013 | August 2010 – May 2011 |

Professional Work Experience

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|---|---------------------------|
| SheekGeek LLC – New London, NC
<i>Co-Owner/Research & Development</i> <ul style="list-style-type: none">● Built business from the ground up● Designed circuits and PCBs in EagleCAD● Pursued designs from concept to production● Produced and retailed educational kits and products.● Designed and implemented an ecommerce website based on ZenCart● Represented the company at many public events | July 2005 - Present |
| Freelance Writer - Charlotte, NC <ul style="list-style-type: none">● Created how-to articles at Hackaday.com● Brainstorming new topics for articles for the writers' pool | May 2008 – March 2009 |
| The University of North Carolina at Charlotte, NC
<i>MOSAIC Technical Assistant</i> <ul style="list-style-type: none">● Solved problems on users' Windows XP, UNIX, and Linux accounts on the MOSAIC Computing Network through UNIX.● Maintained professional contacts with users by phone or in person | February 2006- March 2007 |
| Micro Robotics Supply, Incorporated - Huntersville, NC
<i>Consultant</i> <ul style="list-style-type: none">● Constructed biologically inspired robotic kits● Conducted research on new uses for current hardware | August 2004 - 2006 |

Academic Work Experience

Dance.Draw Project at UNCC

Charlotte, NC June 2010 – Current

Hardware Engineer

- Designed and built hardware for wireless kinesthetic motion capture using multiple sensors
- Designed and built hardware for body area networks measuring physiological responses to performance stimuli
- Conducted experiment on live subjects testing hardware
- Conducted research on wireless physiological body response sensor networks

North Carolina Junior Engineering and Technologist Society (NCJETS) - National Science Foundation Grant Project at UNCC - Charlotte, NC April 2007 – June 2010

Student Project Coordinator

- Planned major events and competitions involving up to 700 people
- Designed rules and courses for robot, trebuchet, paper, and website competitions
- Designed curriculum for and taught middle school summer camps
- Interviewed, hired, and managed NCJETS mentors
- Increased enrollment by presenting to schools interested in the program
- Represented the organization at conferences and public events

Teaching Experience

Graduate Assistant ETEE 2201 Assembly Language Lab January 2009- May 2009

- Developed course material
- Lectured course
- Helped students understand concepts and techniques of assembly language programming

Instruction of Introductory JAVA Class

April 2009

- Instructed teams entering NCJETS robot competition on introductory JAVA for use on their robots

Instruction of Engineering-Related Curriculum

June 2006 -July 2009

- Co-taught week-long NCJETS summer camps for high school and middle school students
- Supervised all projects given to the students
- Gave tours of campus labs, including the Microelectronics Clean Room, Motorsports Engineering shop, and Mechanical Engineering machine shop.

Creation of Engineering-Related Curriculum

April 2007 - July 2009

- Designed week-long NCJETS summer camps for high school and middle school students

Creation of Engineering-Related Curriculum

May 2008-August 2008

- Designed the ENGR 1201 final project curriculum based on real-world collaborative engineering
- Designed and fabricated testing apparatus

Community Service

- Technical Mentor, Senior Graduation Project, Mecklenburg County School
September 2008 – May 2009
- Carowinds Education Days
May 2008
- Chairperson of the National Foundation for Transplants,
North Carolina in Honor of Thomas “Red” Gallimore
April 2008-Present
- NCSU State Science Olympiad Judge: Robo-Cross Competition
April 2008
- NCJETS Robot competition
March 2007
- National Association for Gifted Children’s Annual Convention
November 2006
- NCJETS Robot and Bridge Competition
March 2006

Peer Reviewed Publications

- 1) **Harris, Adam**; Conrad, James M; “Survey of Popular Robotics Simulators, Frameworks, and Toolkits”; *Proceedings of the 2011 IEEE SoutheastCon*, Nashville, TN March 2011
- 2) **Harris, Adam**; Conrad, James M.; “Hybrid Control of a Simple Autonomous Robot”; *Proceedings of the 2010 IEEE SoutheastCon*, Charlotte, NC March 2010
- 3) Tolley, Patricia; Sharer, Deborah; Brizendine, Anthony; Phillips, Michael; **Harris, Adam**; “Enhancing Diversity in Engineering Technology”; *Proceedings of the American Society of Engineering Education National Conference, Pittsburgh, PA*. February 2008
- 4) **Harris, Adam**; Conrad, James M.; “A Biology, Electronics, Aesthetics, Mechanics Robotics Platform” (Poster); *Proceedings of the 1st annual State of North Carolina Undergraduate Research Symposium*, November 2005
<http://www.ncsu.edu/sncurcs/abstracts/etmabs.htm#Harris>

Other Publications

- 1) **Harris, Adam**; Regular writer on website, *SheekGeek.org*
(<http://www.sheekgeek.org>) Starting September 2009
- 2) Brizendine, Anthony; Kuyath, Stephen J.; **Harris, Adam**; Morgan, Daniel;
"Enhancing Diversity in Engineering Technology" (Showcase) *AACC ATE National Principal Investigators Conference*; October 2008
- 3) **Harris, Adam** "How to Make Your Own Plastic Vacuum Former", O'Reilly Media Inc.
Best of Instructables Volume 1 pp.207 – 209, October 2008
- 4) **Harris, Adam**; "How To" project author at *Hackaday.com*
(<http://www.hackaday.com/author/adamharris/>) May 2008-March 2009

Non-Academic Presentations

MakerFaire:

- "SheekGeek.com" <http://www.nysci.org/visit/events/maker-faire-event>
New York Hall of Science September 2010
- "SheekGeek.com" <http://makerfairenc.com/> Durham, NC April 2010

Geekfest, CPCC Levine Campus

- "SheekGeek" <http://www.cpcc.edu/thegeekfest/2010> November 2010
- "SheekGeek" <http://www1.cpcc.edu/thegeekfest/2009> November 2009
- "SheekGeek" <http://www1.cpcc.edu/thegeekfest/2008> November 2008
- "SheekGeek" <http://www1.cpcc.edu/thegeekfest/2007> October 2007
- "SheekGeek" <http://www1.cpcc.edu/thegeekfest/2006> September 2006

Bugfest, North Carolina Museum of Natural Science

- "SheekGeek: Robotic Bugs " September 2010
- "Robotic Bugs: Build a Working Robot with SheekGEEK.com and NCJETS"
<http://www.bugfest.org/> September 2008
- "Robotic Bugs and NCJETS" September 2007
- "SheekGeek: Build a Working Robot" September 2006
- "SheekGeek: Build a Working Robot" August 2005
- "Robotic Bugs" September 2004

Astronomy Days, North Carolina Museum of Natural Science

- "SheekGeek: Build a Working Robot" January 2008

Achievements and Organizations

- 1) IEEE, February 2011
- 2) Interact (Human Computer Interaction student Organization), August 2010
- 3) Tau Beta Pi Engineering Honors Society induction, May 2010
- 4) Marine Technology Society at UNC Charlotte, September 2008
- 5) Charlotte Area Robotics, September 2008
- 6) UNC Charlotte/Society for Technical Communication Annual Exhibition of Student Work. First Place, Soft Copy Instructions category. "Complete Beginner's Guide to C and C++ Programming in Windows." April 2007
- 7) The William States Lee College of Engineering Annual Celebration of Student Achievement Volunteer Recognition. May 2006, 2007
- 8) Instructables and Popular Science "Use it again!" Contest, Second Place, <http://www.instructables.com/blog/BJK3XPCF05IO1W1/> "How to Make Your Own Prototypes: How to Make Your Own Plastic Vacuum Former" <http://www.instructables.com/id/How-to-Make-Your-Own-Prototypes-%3a-How-to-make-your-> Feb 2007.
- 9) Stanly Community College Electronics Blast Electronics III Competition. Second Place. August 2002.

Academic Research Projects

Design and Execution of SoutheastCon 2010 Hardware Competition 2009 - 2010

- Took a leading role in early development
- Brainstormed rules
- Designed track
- Wrote up preliminary rules
- Modeled the Preliminary track designs in 3D CAD
- Helped organized and oversaw the event on the days of competition and practice

Multiphase Computational Fluid Dynamics Algorithm in VHDL December 2008

- Ported parallel C++ code of algorithm to VHDL
- Parallelized the code further to improve speed of calculation

Design and Fabrication of a Voice Controlled Robot January 2008 – May 2008

- Constructed HM2007 voice recognition circuit
- Controlled Servos with an Atmega128 microprocessor
- Designed 2D Infrared scanning for obstacle avoidance
- Programmed Atmega128 microprocessor in Embedded C
- Created project website at <http://www.projectbloc.com/seniorproject>

Interfacing the HD44780 to the Fox11

November 2006

- Interfaced an LCD using the HD44780 controller to the Fox11 68HC11 microprocessor using the 4-bit mode of the HD44780
- Used Assembly Code
- Added keypad allowed more versatility of the circuit

Remote Controlled Servo Sword Fighter

March 2005

- Interfaced two servos with the TMD100+MD series PLC
- Implemented timers, counters, custom scripts, analog to digital conversion, and pulse width modulation

Design and Fabrication a Planar Wifi/Bluetooth Antenna on Silicon

March 2004

- Designed a planar antenna for a 2.4GHz device
- Fabricated a silicon wafer with an array of antennae in a clean room