

Charles E Hays III

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PROFILE

Skilled software engineer with MS in computer science. Research experience in AI, robotics and computer vision. Strong problem solving skills, entrepreneurial experience from startup company. Leadership skills from experience serving as department academic advisor.

EDUCATION

M.S. Computer Science – GPA: 3.9 <i>University of Minnesota</i>	2005
B.S. Computer Science – GPA: 3.3 <i>University of Minnesota</i>	2003

EXPERIENCE

Software Development Engineer in Test <i>Microsoft, Minneapolis, MN</i>	May 2008-present
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Developed test automation software used to ensure the quality of a major software package called Expression Blend. Developed new automation techniques and technologies for the team. Participated in all phases of the software release cycle.

Founder – Software Engineer <i>ReconRobotics Inc., Minneapolis, MN</i>	April 2004-May 2008
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Co-founder of ReconRobotics Inc. Primary responsibility was software development for the new products being developed. Other responsibilities included marketing, management and sales as needed.

- Developed software for all portions of the commercialized product (mini recon robot platform). Developed in C for 8-bit Atmel RISC cpu.
- Created marketing materials and helped create sales strategy for newly formed company.

Futures Trader <i>Self Employed</i>	Feb 2006 - present
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Self employed futures trader. Trade primarily in the emini futures markets, as well as crude oil futures. Learned many skills including financial analysis, trade execution, money management and risk management.

- Developed statistical analysis software in C++ using AI techniques such as neural networks, genetic algorithms and population based incremental learning.
- Developed web based accounting software to manage a large trading business using Ruby on Rails.

Research Assistant <i>Distributed Robotics Laboratory – Department of Computer Science – U of MN</i>	Jan 2004 – May 2006
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Design and implementation of novel robotics hardware and software algorithms. Projects included software and hardware design of miniature reconnaissance robot and control unit for military, as well as platforms specifically designed for research work and educational use. Worked with electronic design, motor control, firmware design/implementation, and high level software behaviors.

- Developed software for robotic platforms using C/8-bit cpus, C++ on embedded linux
- Designed both low level and higher level software, including computer vision
- Supervised undergraduate students on research projects

Undergraduate Advisor/Tutor/Academic Advisor

May 2001 – Jun 2004

Department of Computer Science/IT – U of MN

Served as the primary advisor for undergraduate students in the department of computer science. Responsible for most academic aspects of students, including degree planning/approval, emphasis selection, probation issues, independent studies, and class/career advice. Interacted with students and department members on a daily basis.

- Developed management skills through interaction with students and faculty.
- Held a position normally held by faculty (professor)

Software Engineering Intern

Jun 2000 – June 2001

Visionics Inc. – Minnetonka, MN

Participated in software engineering process, including specifications, testing and documentation of engineering activities. Wrote site specific packages customizing fingerprinting machines for law-enforcement departments.

- Learned source control and software engineering process
 - Utilized TCL/TK on UNIX/Linux platform
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SKILLS

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- Source control and software engineering process
 - Programming Technologies: C, C++, Java, Matlab, Lisp, Ruby, C#, WPF/Xaml, Silverlight
 - Web Frameworks: Ruby on Rails, Drupal
 - Robotics: Electronics design, Motor control, Microcontroller firmware, Communications, High-level behaviors, Vision systems
 - Managerial and leadership skills from experience in advising and supervising undergraduate students
 - Technical writing
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ACADEMIC PUBLICATIONS*Increasing the Scout's effectiveness through local sensing and ruggedization*

Drenner, A.; LaPoint, M.A.; Burt, I.; Cannon, K.; Hays, C.; Kottas, A.D.; Papanikolopoulos, N. Robotics and Automation, 2004. Proceedings. ICRA '04. 2004 IEEE International Conference on, Vol.2, Iss., 26 April-1 May 2004 Pages: 1406- 1411 Vol.2

Relative Collaborative Localization Using Pyroelectric Sensors

LaPoint, M.A.; Burt, I.; Cannon, K.; Hays, C.; Miller, B.; Papanikolopoulos, N.

The Design and Functionality of the MegaScout Version 2.0

Hays, C. – M.S. Thesis 2005