

# Johnathan Van Why

## Contact Information

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## Permanent Address

2792 NW Arlington Dr.  
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## Education

<b>Oregon State University</b>	Mathematics Major GPA: 3.96	Sept. 2012 - Present
<b>West Albany High School</b>	Honors Diploma	Sept. 2008 - June 2012

## Research History

<b>Independent Research</b>	Applied trajectory optimization techniques to robotic legged locomotion research. Corresponding paper was accepted at <i>IROS</i> .	July 2013 - Present
<b>Texas A&amp;M Collaboration</b>	Collaborated with Texas A&M students; the collaboration led to a paper that received the Best Student Paper Award at <i>HSCC</i> .	Sept. - Oct. 2013

## Work Experience

<b>Undergraduate RA</b>	Developed robot control software and conducted experiments for the Oregon State University Dynamic Robotics Laboratory.	June 2012 - Present
<b>IMU Implementation</b>	Interned in the lab of Prof. Hartmut Geyer; integrated IMU data into the software systems for the ATRIAS robot.	Summer 2014

## Skills

<b>Optimization</b>	Familiar with the formulation of convex and nonlinear programs. Aware of techniques for the solution of convex and nonlinear programs and their strengths and weaknesses.
<b>Trajectory Optimization</b>	Experienced in formulating optimal control problems using the direct collocation method. Understand the advantages and disadvantages of single shooting, multiple shooting, and direct collocation.
<b>Software Development</b>	Familiar with the development of realtime systems and performant software in C++. Experienced in MATLAB for numerical and symbolic computation.

## Publications

J. Van Why, C. Hubicki, M. Jones, M. Daley, and J. Hurst, "Running into a Trap: Numerical Design of Task-Optimal Preflex Behaviors for Delayed Disturbance Responses," *IEEE International Conference on Intelligent Robots and Systems (IROS)*, pages 2537-2542. IEEE, 2014.

A. Hereid, S. Kolathaya, M. Jones, J. Van Why, J. Hurst, and A. Ames, "Dynamic Multi-Domain Bipedal Walking with ATRIAS through SLIP based Human-Inspired Control," in *Proceedings of the 17th International Conference on Hybrid Systems: Computation and Control (HSCC)*, pages 263-272. ACM, 2014. Received DENSO Best Student Paper Award.

## Scholarships

<b>Presidential Scholarship</b>		April 2012
<b>Engineering Dean's Award</b>		April 2012
<b>Sally Runes-Hicks Scholarship</b>		April 2012
<b>Science Scholars Scholarship</b>		April 2013
<b>Harry Goheen Award</b>		May 2014

## Awards

<b>Goldwater</b>	Nominated by Oregon State University for the Barry Goldwater Scholarship; Awarded Honorable Mention.	Mar. 2014
<b>Undergraduate Researcher of the Year</b>	Awarded Honorable Mention for Oregon State University's Undergraduate Researcher of the Year Award.	May 2014

## Honor Societies

<b>Phi Kappa Phi</b>	Inducted into the Phi Kappa Phi academic honor society.	May 2014
<b>Pi Mu Epsilon</b>	Inducted into the Pi Mu Epsilon mathematical honor society.	April 2013

## Extracurricular Activities

<b>FRC Team 957 Mentorship</b>	Mentored FIRST Robotics Competition team 957 in electronics, programming, and controls design.	June 2012 - Feb. 2014
<b>FRC District Competition</b>	Participated in the setup and teardown of the FRC district event at OSU.	April 2014