Bjoern Cheng Yi

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Education

- **Bachelor of Science in Computer Science**, George Washington University – graduated May 2016.
- **Master of Science in Computer Science,** George Washington University – currently enrolled, expected to graduate in May 2017.

Relevant Academic Work

- **Design & Analysis of Algorithms**
- **Introduction to Robotics**
- **Robotics: Manipulation**
- **Introduction to Scientific Computation**

Relevant Academic Achievement

- **Awarded *Best Senior Design Project*** – a Fast Algorithm for Finding the Minimal Translational Distance between Two Interpenetrated Polyhedra
  - The algorithm was further developed and used in Moby, an open source physics simulator developed by The Positronics Lab.
  - Github Repository: *https://github.com/PositronicsLab/Moby*

Relevant Work Experience

- **Research Assistant**, The Positronics Lab, George Washington University, May 2015 – Present
  - Researching algorithms to correct interpenetration errors in multi-rigid-body simulations
  - Implemented the V-Clip Algorithm for contact determination in C++

- **Research Assistant**, The Positronics Lab, George Washington University, Nov. – Dec. 2014
  - Investigated the properties of two augmented reality (AR) tag tracking libraries on ROS toward door pose tracking with robots

Skills

- **Math:** Linear Algebra, Analytic Geometry, Number Theory, Mathematical Proof
- **Robotics:** Feedback Control, Inverse and Forward Kinematics, Trajectory Formation
- **Algorithm Design & Analysis:** Space and time complexity analysis
- **Source Control Software:** Git
- **Programing language:** C++, MATLAB, Java
- **Language:** English – Fluent, Chinese – Native, Japanese - Basic

Publication

- **Yi, B.** Drumwright, E. (2016), Determining Contact Data for Rigid Body Dynamics with Convex Polyhedral Geometries. 2016 IEEE International Conference on Simulation, Modeling, and Programming for Autonomous Robots, San Francisco, CA. December 13-16, 2016 (peer reviewed)
  - Link: *http://positronicslab.github.io/assets/pdfs/CD16.pdf*