

William J. Doyle

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Education

Ph.D. in Computer Science September 2015 – present

University of New Hampshire in Durham, NH

Advisor: Wheeler Ruml, Expected graduation: May 2021

Relevant coursework:

Introduction to Artificial Intelligence, Planning for Robots – Prof. Wheeler Ruml

Introduction to Machine Learning, Reinforcement Learning – Prof. Marek Petrik

Probabilistic AI, Multi-Agent and Multi-Robot Systems – Prof. Christopher Amato

Introduction to Information Retrieval – Prof. Laura Dietz

M.S. in Computer Science

September 2017 – December 2019

University of New Hampshire in Durham, NH

B.S. in Mathematics and Computer Science, cum laude

September 2011 – June 2015

Union College in Schenectady, New York

Technology Skills

Programming Languages: Kotlin, Java, Python, C++, C

Software: Git, Gradle, Vim, IntelliJ, Anaconda

Professional Experience

Research Assistant, Joint UNH-C3I Inc. Research Project September 2018 – August 2019

- Prototyped an automatic industrial supervisory controller

Summer Intern, Envio 360

Summer 2018

- Created the core of the company's now scheduling system using Python
- Implemented constraint/optimization techniques to drastically improve their scheduler
- Increased the performance of the search up to 100%

Research Interests

artificial intelligence, heuristic search, real-time planning

Projects

Real-time Search on a Mobile Robot

Spring 2017

- Designed and implemented an architecture for real-time navigation using dynamic obstacles

Topology Between Two Point Robots, Thesis

June 2015

- Undergraduate thesis surveying the field using robotics as a illustrative domain

Classifying System Call Traces using Anomaly Detection

June 2015

- Honors thesis evaluating the structure of operating system call patterns to detect malicious activity

Refereed Publications

Jingwei Chen, Nathan R. Sturtevant, William J. Doyle, and Wheeler Ruml. "Revisiting Sub-optimal Search," *Proceedings of the Twelfth International Symposium on Combinatorial Search (SoCS-19)*, 2019

Bence Cserna, William J. Doyle, Tianyi Gu, and Wheeler Ruml. "Safe Temporal Planning for Urban Driving." *Proceedings of the AAAI-19 Workshop on Artificial Intelligence Safety (SafeAI)*, 2019

Bence Cserna, William J. Doyle, Jordan Ramsdell, and Wheeler Ruml, “Avoiding Dead Ends in Real-time Heuristic Search,” *Proceedings of the Twenty-second AAAI Conference on Artificial Intelligence (AAAI-18)*, 2018.

**Teaching
Experience**

<i>Teaching Assistant, Algorithms</i>	Fall 2019, Spring 2020
<i>Assembly Language and Machine Organization</i>	Spring 2020
<i>Scientific Programming in Python</i>	Spring 2018, Spring 2020
<i>Scientific Programming in C</i>	Fall 2017
<i>Introduction to Computer Science I & II</i>	Fall 2015 - Spring 2017

- Conduct lab and recitation sessions for undergraduate and graduate students