William J. Doyle

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RESEARCH INTERESTS

artificial intelligence, heuristic search, real-time planning

EDUCATION

Ph.D. in Computer Science — September 2015 – present
University of New Hampshire in Durham, New Hampshire
Advisor: Wheeler Ruml
Expected graduation: May 2021
Relevant coursework:

- Introduction to Artificial Intelligence (Prof. Wheeler Ruml)
- Planning for Robots (Prof. Wheeler Ruml)
- Introduction to Machine Learning (Prof. Marek Petrik)
- Topics in Reinforcement Learning (Prof. Marek Petrik)
- Probabilistic Artificial Intelligence (Prof. Christopher Amato)
- Topics in Multi-Agent and Multi-Robot Systems (Prof. Christopher Amato)
- Introduction to Information Retrieval (Prof. Laura Dietz)

B.S. in Mathematics and Computer Science — September 2011 – June 2015
Union College in Schenectady, New York
Graduated *cum laude*

REFEREED CONFERENCE PUBLICATION

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

TECHNOLOGY SKILLS

Programming Languages: Kotlin, Java, Python, C++
Software: Git, Gradle, Vim, IntelliJ

PROJECTS

Real-time Search on a Mobile Robot — Spring 2017

- Experimented with the architecture required for real-time search on a physical platform

Topology Between Two Point Robots, Thesis — June 2015

- Detailed an introduction to the field using robotics as a domain

Classifying System Call Traces using Anomalous Detection, Honors Thesis — June 2015

- Explored the structure of operating system call patterns to detect malicious activity

PATENTS

Filed for the Safe Real-time Search technology (*AAAI-18* publication) — February 2018

PROFESSIONAL EXPERIENCE

In Search Intern, Envio 360 — Summer 2018

- Created the kernel of the Envio 360 scheduling system using Python
- Introduced constraint and optimization techniques to improve their scheduler
- Sped up the core of the search by $10 - 90\%$

TEACHING EXPERIENCE

Teaching Assistant, Scientific Programming in Python — Spring 2018
Scientific Programming in C — Fall 2017
Introduction to Computer Science I & II — Fall 2015 - Spring 2017

– Conduct lab and recitation sessions for undergraduate students

EXTRA-CURRICULAR EXPERIENCE

Association for the Advancement of Artificial Intelligence, *Member* — 2017 – present
UNH Artificial Intelligence Student Organization, *Member* — 2017 – present