ERIKA RUMBOLD

erumbold@uvic.ca | Website | Google Scholar | GitHub | LinkedIn

RESEARCH INTERESTS

Music Information Retrieval, Automatic Music Transcription, Audio Source Separation, Score-Informed Source Separation, Machine Learning, Music

EDUCATION

University of Victoria, Victoria, BC, Canada   *expected 2027*
Ph.D. in Computer Science

Northwestern University, Evanston, IL   *2022*
Master of Science in Computer Science
Thesis: A Critical Analysis of Objective Evaluation Metrics for Music Source Separation Quality
Committee: Bryan Pardo (advisor), Han Liu

Ithaca College, Ithaca, NY   *2017*
Bachelor of Arts in Computer Science
Minor studies in Audio Production, Music

TEACHING

Workshop Designer and **Head Lecturer**   Victoria, BC, Canada
Women in Engineering, Science, and Technology (WEST)   2024
WEST x Redbrick Python Fundamentals Workshop

Teaching Assistant
University of Victoria
CSC 475/575 – Music Retrieval Techniques   Spring 2024, Spring 2025
CSC 421 – Introduction to Artificial Intelligence   Fall 2024
CSC 110 – Fundamentals of Programming I   Fall 2023

Northwestern University
COMP_SCI 349 – Machine Learning   Winter 2022
COMP_SCI 348 – Introduction to Artificial Intelligence   Spring 2021, Fall 2021
COMP_SCI 295/396/496 – AI and Experimental Narrative   Spring 2022

Ithaca College
COMP 17100 – Principles of Computer Science I   Fall 2016, Spring 2017, Fall 2017
COMP 17200 – Principles of Computer Science II   Spring 2017
COMP 20500 – Advanced Web Programming   Fall 2017
TVR 10500 – Introduction to Audio Production   Fall 2015, Spring 2016

PROFESSIONAL EXPERIENCE

University of Victoria   Victoria, BC, Canada
Research Assistant   *2022 - Present*
Advisor: George Tzanetakis

Northwestern University   Evanston, IL
Student Researcher   *2020 - 2022*
Interactive Audio Lab
Advisor: Bryan Pardo

Empower AI   Reston, VA
AI Engineer   *2019-2020*
Software Engineer   *2018 - 2019*

Ithaca College   Ithaca, NY
Research Assistant   *2017*
Tots on Bots
Advisor: Sharon Stansfield

Dana Internship Program   Ithaca, NY
Research Intern   *2017*
Advisor: John Barr

HONORS & AWARDS

Upsilon Pi Epsilon   2017
International Honor Society for the Computing and Information Disciplines

Dean's List   Fall 2014, Spring 2015, Fall 2015
Ithaca College

PUBLICATIONS

Erika Rumbold, George Tzanetakis, Bryan Pardo. Correlations Between Objective and Subjective Evaluations of Music source Separation. In *Proceedings of the Sound and Music Computing Conference (SMC)*, 2024.

PRESENTATIONS

Measuring Prefrontal Cortex Activity during Passive and Active Movement. Melody Wallace, **Erika Rumbold**, Sharon Stansfield, Helene Larin, Carole Dennis. *Rehabilitation Engineering and Assistive Technology Society of North America Conference (RESNA)*. New Orleans, LA. June 2017. Poster.

SERVICE

Treasurer   *2016 - 2017*
Ithaca College Women in Computing

SKILLS

Programming Languages: *Expert:* Python, *Past Experience:* Java, C++
Machine Learning: *Expert:* PyTorch, Tensorflow, NumPy, SciPy, Scikit-learn
Music Information Retrieval: *Expert:* Librosa, Humdrum, MusicXML, Verovio, music21
Web: *Past Experience:* JavaScript, HTML, CSS, Flask, Django, AWS, Spark
Data: *Expert:* Pandas, *Past Experience:* SQL

SELECT MUSIC CREDITS

I have performed as a professional violinist in pit orchestras, wedding ensembles, and rock bands.
I've also arranged pieces for orchestras, chamber ensembles, and choirs.

Super Mario 64 Medley   2016
Arrangement for Ithaca College Gamer Symphony Orchestra

Spamalot   2015
Delaware All State Theatre
Violin

Titanic: A New Musical   2014
Delaware All State Theatre
Violin I

Miracle on 34th Street   2013
Wilmington Drama League
Violin II

Into the Woods   2013
The Tatnall School
Violin I

Jekyll & Hyde   2013
Delaware All State Theatre
Violin II

The Sound of Music   2012
The Tatnall School
Violin I