William V. Jardee

WillJardee.github.io
Github.com/WillJardee

willjardee@gmail.com
(406) 836-2338

EDUCATION

Ph.D. in Computer Science *Aug 2022 - Present*
Montana State University, Bozeman, MT GPA: 3.71/4.0

B.S. in Physics *Aug 2018 - May 2022*
Montana State University, Bozeman, MT GPA: 3.81/4.0
Summa Cum Laude
Honors Highest Distinction
Phi Kappa Phi Honors Society
Minors in Computer Science and Mathematics

INTERESTS

Research
Mathematical modeling of swarm intelligence models and their hyperparameters
Ethical artificial ntelligence
Explainable and interpretable artificial intelligence
Teaching
Intuitive explanations of mathematical concepts
Accessibility to mathematics for disadvantaged groups
Accessibility
Principles of effective digital accessibility
Ease of implementation of accessibility into already established workflows

RELEVANT COURSES AND TECHNICAL SKILLS

Languages
Coding: Python, Java, C/C++, BASH
Mathematical Analysis: Matlab, Mathematica, Excel
Communication: Git/GitHub, LaTeX, HTML, CSS, Markdown
Computer Systems: Arch Linux, Ubuntu, Windows, Arduino

Computer Science
Adv. AI/ML *(CSCI 446, CSCI 547, CSCI 546, CSCI 550)* [1]
Computational Geometry *(CSCI 534)*
Computation Theory *(CSCI 538, CSCI 532)*

Mathematics
Probability Theory *(PHSX 446, STAT 501)*
Analytic and Approximate Differential Equations
Operator Algebra/Metric Calculus
Linear Algebra *(M 333)*
Dynamical/Chaotic Systems *(M 454/455)*
Index/Einstein Notation

Physics
Intro to General Relativity *(PHSX 491)*
Quantum Mechanics *(PHSX 461, PHSX 462)*
Elementary Particle Physics *(PHSX 451)*

Communication and Leadership
Seminar: Worldbuilding *(HONR 494)*
Leadership for Future STEM Professionals *(HONR 491)*

TEACHING EXPERIENCE

AI Substitute Lecturer (Ethical AI) *Nov 2023*

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[1] Lables correspond with course numbers from Montana State University. CSCI: Computer Science, PHSX: Physics, M: Mathematics, STAT: Statistics.

Gianforte School of Computing; MSU, Bozeman

Introduction to ML Grading Assistent (EN605.649) *Jan 2023 -Present*
Whitney School of Engineering; JHU, Maryland

Hillman Scholars Tutor *Jul 2021 - May 2022*
Allen Yarnell Center for Student Success; MSU, Bozeman

Math Stats Center Tutor *Aug 2021 - May 2022*
Mathematics Dept.; MSU, Bozeman

Introductory Physics Proctor/Grader (PHSX 207) *Jan 2021 - May 2021*
Physics Dept.; MSU, Bozeman

Introductory Physics Student Lab Assistant (PHSX 205) *Aug 2020 - Nov 2020*
Physics Dept.; MSU, Bozeman

Smarty Cats Tutor *Aug 2019 - May 2020*
Allen Yarnell Center for Student Success; MSU, Bozeman

Volunteer STEM Tutor *Oct 2019 - Mar 2020*
The Rock Youth Center; Bozeman, MT

RESEARCH EXPERIENCE	**Graduate Researcher**	
	Numerical Intelligent Systems Laboratory; MSU, Bozeman	
	Modeling of Emergent Behavior in Ant Colony Optimmization	*2022 - present*
	Using CNNs and PIFs for classifying Prostate Cancer	*Summer 2023*
	Fault Diagnosis of Fighter Planes using CTBN	*Summer - 2023*
	Undergraduate Researcher	*Aug 2020 - Dec 2020*
	Dr. John Sample's Lab; MSU, Bozeman	
	Undergraduate Researcher	*Jan 2020 - Apr 2020*
	Dr. Rufus Cone's Lab; MSU, Bozeman	

MISC. EXPERIENCE	**SPS Treasurer**	*Feb 2020 - Jan 2022*
	Society of Physics Students at Montana State University, Bozeman	

AWARDS AND GRANTS	**Benamin Fellowship**	*Sept 2022*
	Dept. Physics Outstanding Graduating Senior	*Apr 2022*
	Physics Departmental Scholarship	
	Norman Mac Rugheimer Scholarship	*Aug 2021, Jan 2022*
	Asbridge Physics Scholarship	*Aug 2020*
	Montana University Systems Scholarship	*May 2018*
	Bertha Feaster Scholarship	*May 2018*

POSTERS AND PRESENTA-TIONS	**MSU Relativity and Astrophysics (RelAstro) Seminar**	
	Introduction to Data Exploration with Machine Learning	*Nov 2022*
	MSU Guest Lecturer	
	Introduction to Python Seminar: Building Neural Networks	*Nov 2022*
	MSU Student Research Celebration	
	Rule Extraction from a Random Forest	*May 2022*
	SPS Undergraduate Colloquium	
	How to Teach Yourself to Code	*Nov 2022*
	RREA Propagation Theory	*Oct 2021*
	The Better Poster Design	*Feb 2021*
	Teaching Yourself Computer Languages	*Feb 2021*
	Introduction to Python	*Feb 2021*
	The Basics of Climate Physics	*Sept 2020*

OUTREACH **Montana Science Center**
Summer Camp; Volunteer Counselor — *Jun 2022 - Jul 2022*
Science After Dark; Event Volunteer — *Oct 2022*
Pride in STEM; Event Volunteer — *Nov 2022*

Museum of the Rockies
Grossology; Event Volunteer — *Oct 2021*

Society of Physics Students
Liquid Nitrogen Ice Cream; Organizer — *Oct 2021*
Careers in Industry Panel; Moderator — *Mar 2021, Oct 2020*