

Jitao Xu

Ph.D. Candidate (ABD) in Computer Science, Old Dominion University

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Teaching Qualifications Summary

Ph.D. candidate in Computer Science (advanced to candidacy; both comprehensive examinations passed) with **31 graduate semester hours in computer science** earned at Old Dominion University at a 4.0 GPA —15 hours of graded 800-level CS coursework plus 16 hours of CS doctoral research and dissertation—in addition to an M.S. in Computer Technology. Three semesters of undergraduate CS teaching experience at ODU as a teaching assistant and invited guest lecturer, covering operating systems, web development, and computer architecture. Publications at IJCAI-ECAI, AAAI, and in *Applied Soft Computing*. Seeking an adjunct faculty appointment teaching one course per semester.

Graduate Coursework in Computer Science

The following courses were completed in the Ph.D. program in Computer Science at Old Dominion University (CS prefix, 800-level graduate courses). This coursework satisfies the requirement of a minimum of 18 graduate semester hours in the teaching discipline.

Course	Title	Credits	Grade	Term
CS 800	Research Methods	3	A	Spring 2025
CS 833	Natural Language Processing	3	A	Fall 2024
CS 872	Advanced Computer & Network Security	3	A	Fall 2025
CS 895	Topics: Pattern Recognition & Analysis	3	A	Fall 2024
CS 895	Topics: Practical Machine Learning & Applications	3	A	Spring 2025
CS 898	Doctoral Research	9	Pass	2024–2025
CS 899	Doctoral Dissertation	7	Pass	2025–2026

Total graduate semester hours in CS earned 31

A further 3 hours of CS 899 are in progress. Cumulative graduate GPA: 4.00/4.00. Both the written and oral doctoral comprehensive examinations are recorded as passed on the official transcript. Transcript available on request.

Courses Prepared to Teach

- Introduction to Programming / Python
- Programming Fundamentals I & II (C++, Java)
- Data Structures and Algorithms
- Operating Systems
- Computer Architecture and Organization
- Web Development (HTML5, CSS3, JavaScript)
- Introduction to Artificial Intelligence
- Machine Learning / Deep Learning
- Natural Language Processing
- Computer and Network Security

Comfortable teaching in person at any Hampton Roads campus, hybrid, or fully online.

Teaching Experience

Old Dominion University

Guest Lecturer — CS 270: Computer Architecture

Norfolk, VA

Spring 2025

- Invited by the course instructor to deliver a full lecture to an undergraduate section
- Prepared slides and worked examples on computer architecture concepts; fielded student questions and led discussion

Old Dominion University

Teaching Assistant — CS 312: Internet Concepts

Norfolk, VA

Jan 2025 – May 2025

- Supported instruction in HTML5, CSS3, JavaScript, and responsive web design
- Developed supplementary materials and hands-on coding exercises used across the section
- Held office hours providing individualized support; graded projects with detailed written feedback

Old Dominion University

Teaching Assistant — CS 471: Operating Systems

Norfolk, VA

Sept 2024 – Dec 2024

- Supported 40+ students in process management, memory allocation, and concurrency
- Designed and graded programming assignments on system calls and synchronization
- Facilitated weekly problem-solving sessions; assisted in developing midterm examination questions

Education

Old Dominion University

Ph.D. in Computer Science — Advanced to Candidacy (ABD)

Norfolk, VA

Sept 2024 – Present

- GPA 4.00/4.00; written and oral comprehensive examinations passed; advanced to candidacy
- Research focus: AI for physics — machine learning methods for scientific inference problems

Northeast Normal University

M.S. in Computer Technology

Jilin, China

Sept 2021 – May 2024

- Thesis: *Machine Learning Applications in Combinatorial Optimization*
- Coursework: Advanced Algorithms, Machine Learning, Deep Learning, Natural Language Processing

Fujian University of Technology

B.S. in Computer Science

Fujian, China

Sept 2016 – May 2020

Publications

Doctoral research — AI for physics

- **Learning Transverse Momentum Distributions from Raw Scattering Events via Conditional Diffusion.** *Conference on Physics and AI (PAI26)*, 2026. With C. Cocuzza, K. Braga, D. Lersch, N. Sato, Y. Li.
- **Active Diffusion-Based Inference for Ill-Posed Inverse Problems under Incomplete Priors.** *IJCAI-ECAI 2026*, Main Track. With N. Sato, Y. Li.
- **Neural Network Representation of Generalized Parton Distributions (NNGPD).** arXiv:2605.06994, 2026. With H. Jang, Z. Panjsheeri, G.W. Chern, Y. Li, S. Liuti, D. Adams et al.
- **Towards an Event-Level Analysis in Hadronic Physics Using Generative AI-Based Surrogates.** *IEEE ICTAI 2025*. With T. Alghamdi, N. Ramachandra, N. Sato, Y. Li.

Master's research — combinatorial optimization

- **Prediction-based Adaptive Variable Ordering Heuristics for Constraint Satisfaction Problems.** *AAAI 2025*. A learning-based framework for dynamically selecting variable ordering heuristics, identifying an effective heuristic for 86% of hard instances.
- **Finding and Exploring Promising Search Space for the 0–1 Multidimensional Knapsack Problem.** *Applied Soft Computing*, 164:111934, 2024. A hybrid large-neighbourhood-search and evolutionary method that outperformed state-of-the-art algorithms and established new lower bounds.

Professional Experience

SmartAHC

Algorithm Engineer Intern

Shanghai, China

Mar 2020 – July 2020

- Built YOLOv3-based CNN models for real-time object detection at 95% accuracy
- Deployed deep learning models to Android devices using Keras; documented deployment workflows

Technical and Instructional Skills

- **Languages:** Python, C/C++, JavaScript, HTML/CSS
- **Frameworks:** PyTorch, TensorFlow/Keras, Scikit-learn, OpenCV
- **Tools:** Linux, Git, L^AT_EX, Jupyter, MATLAB
- **Instructional platforms:** Canvas, Blackboard, Zoom, Microsoft Teams

References

Available upon request.