

# Yunchao “Lance” Liu

## CONTACT INFORMATION

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GitHub: <https://github.com/LanceKnight>  
Google Scholar: <http://scholar.google.com/citations?user=oFdWfwAAAAJ&hl=en>

## EDUCATION

### Vanderbilt University

- **Doctor of Philosophy (Ph.D.)** student in Computer Science
- Advisors: Dr. Jens Meiler, Dr. Bobby Bodenheimer, Dr. Tyler Derr
- Cumulative GPA: 3.92 / 4.00

Aug 2018 – Present

### University of Texas at Dallas

- **Master of Science (M.S.)** in Computer Science
- Cumulative GPA: 3.85 / 4.0

May 2015

### Beijing University of Posts and Telecommunications

- **Bachelor of Science (B.S.)** in Management

Sep 2013

## RESEARCH EXPERIENCE

### Meiler Lab, Vanderbilt University

PhD Student, Computer Science Department

Sep 2018 – Present

- Advisors: Dr. Jens Meiler, Dr. Bobby Bodenheimer, Dr. Tyler Derr
- Research Areas: Computer-Aided Drug Discovery, Geometric Deep Learning, Self-Supervised Learning

### State Key Laboratory of Intelligent Technology and Systems, Tsinghua University

Research Assistant, Department of Computer Science and Technology

Jul 2012 – Mar 2013

- Advisor: Dr. Xiaolin Hu
- Research areas: Visual Saliency for Road Sign Detection

## PUBLICATIONS

Yunchao Liu, Rocco Moretti, Bobby Bodenheimer and Jens Meiler. Foldit Drug Design Game Usability Study: Comparison of Citizen and Expert Scientists. 2020. Precedings of the 13th Annual ACM SIGGRAPH Conference on Motion, Interaction and Games (MIG), 2020

## SERVICES

### Conference Reviewer

- Conference on Neural Information Processing Systems-AI for Science (NeurIPS-AI4Science) 2021

### Conference Sub-Reviewer

- ACM International Conference on Web Search and Data Mining (WSDM) 2022
- ACM International Conference on Information and Knowledge Management (CIKM) 2021
- ACM SIGKDD Conference on Knowledge Discovery and Data Mining (KDD) 2021

## INVITED TALKS

Foldit Drug Design Game Usability Study: Comparison of Citizen and Expert Scientists

Oct 2020

ACM SIGGRAPH Conference on Motion, Interaction and Games (MIG)

Zucker Family Graduate Education Center (virtual due to COVID-19)

## OTHER WORK EXPERIENCE

### American Wonder Porcelain LLC., Nashville, TN, USA

IT Specialist

Sep 2015 – Jan 2018

- Administrated IFS ERP system: user right control, workflow design and etc.
- Analyzed sales data with Power BI
- Planned internet layout
- Provided other technical support

### Xtera Communicatons Inc., Allen, TX, USA

Software Engineer Intern

Jan 2015 – Jul 2015

- Developed visulization software for remotely monitoring optical signals

### University of Texas at Dallas, Dallas, TX, USA

Website Developer Intern

Jun 2014 – Dec 2014

- Developed websites for the international center

<b>PROJECTS</b>	Foldit Drug Design (FolditDD) Usability Study	2020
	<ul style="list-style-type: none"> <li>• Used the think-aloud method to conduct a usability study on FolditDD</li> <li>• Compared the expert scientists and citizen scientists for their scientific problem solving skill in a game setting</li> </ul>	
	FolditDD Interface Revamp	2019
	<ul style="list-style-type: none"> <li>• Changed Foldit interface to meet the need for drug design</li> <li>• Introduced a preset function to quickly set the interface to drug design settings</li> </ul>	
	Geometric Objects Rendering with Ray Tracing Technique	2019
	<ul style="list-style-type: none"> <li>• Used C++ and OpenGL library to render objects using ray tracing technique</li> <li>• Achieved optical effects including reflection, diffusion, (overlapping) shadows</li> </ul>	
	Geographical Data Visualization for UFO reports	2018
	<ul style="list-style-type: none"> <li>• Visualized geographic data of USO reports in the USA</li> <li>• Designed interactive UI with features including zooming/panning/subplot</li> </ul>	
	Visualizing Protein Flexibility using the Visualization Toolkit (VTK)	2018
	<ul style="list-style-type: none"> <li>• Developed a C++ program using VTK library to show the distance of two conformations of a protein</li> <li>• Designed visualization scheme to show color coded flexibility on different parts of the protein</li> </ul>	
	IFS Enterprise Resource Planning (ERP) Deployment	2016– 2018
	<ul style="list-style-type: none"> <li>• Designed the workflows for purchase order, inventory management, sales order, invoice, shop order, work order in the IFS ERP system</li> <li>• Extracted data using SQL and designed auto-generated financial reports including balance sheet, income statement, cost analysis etc.</li> </ul>	
	Library Management System	2015
	<ul style="list-style-type: none"> <li>• Designed and developed a library management system using Java and SQL</li> <li>• Features including book lookup, return, overdue fine calculation, fine payment etc.</li> </ul>	
	Full-time Curricular Practical Training (CPT) calculator	2014
	<ul style="list-style-type: none"> <li>• Developed a web-based full-time CPT calculator at the international center at UT Dallas to help international students avoid overtime working</li> </ul>	
<b>SKILLS</b>	Proficient with: Python, $\text{\LaTeX}$ Coded using: C, C++, C#, Java, Visual Basic, HTML, Javascript, MATLAB, R Operating Systems: CentOS, Ubuntu, and Windows	
<b>LANGUAGES</b>	English: Fluent (speaking, reading, writing). Chinese: Native language.	
<b>REFERENCES</b>	Available Upon Request	

[CV compiled on 2021-10-09]