

# Xinran Yu

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## Education

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<b>University of Illinois at Urbana-Champaign</b> , Illinois Ph.D. in Mathematics MS in Mathematics, May 2019	2017–present
<b>University of Liverpool</b> , Liverpool, United Kingdom BSc in Mathematics (with Honors), June 2017 Thesis: <i>Analytic Continuation and Riemann Surfaces</i> . Supervisor: Dr. Jon Woolf.	2015–2017
<b>Xi'an Jiaotong-Liverpool University</b> , Suzhou, China BSc in Applied Mathematics, June 2017	2013–2015

## Teaching & Mentoring

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<b>Teaching Assistant</b> , <i>University of Illinois at Urbana-Champaign</i>	2019–present
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### Teaching

*Stand-alone Math231* Calculus II, Spring 2022  
*Discussion Math241* Calculus III, on [List of Teachers Ranked as Excellent by Their Students \(Fall 2021\)](#)  
*Discussion Math231* Calculus II, on [List of Teachers Ranked as Excellent by Their Students \(Spring 2021\)](#)  
*Tutor Math286* Introduction to Differential Equation Plus, Fall 2020

### Grading

*Math519* Differentiable Manifolds II, Spring 2023  
*Math541* Functional Analysis, Spring 2023  
*Math553* Introduction to Partial Differential Equations, Spring 2023  
*Math416* Abstract Linear Algebra, Fall 2022  
*Math512* Abstract Algebraic Geometry, Fall 2022  
*Math514* Complex Algebraic Geometry, Fall 2022  
*Math525* Algebraic Topology I, Spring 2021  
*Math417* Introduction to Abstract Algebra I, Spring 2020  
*Math418* Introduction to Abstract Algebra II, Spring 2020  
*Math417* Introduction to Abstract Algebra I, Fall 2019  
*Math489* Dynamics & Differential Equations, Fall 2019

<b>Graduate Team Leader at Illinois Geometry Lab</b> , <i>University of Illinois at Urbana-Champaign</i>	Fall 2019
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Faculty mentor: Katelyn Leisman.

Project: [Simulating Multi-Soliton Solutions to NLS and KdV and Studying Interactions](#)

- Our team focused on the nonlinear Schrödinger (NLS) equation with nonzero boundary condition and studied the exact solution of a one-soliton solutions. We compared the solution of those with zero boundary condition, and used Python to generate figures and animations for the solution.
- Duty
  - Held weekly meetings and provided Python and  $\text{\LaTeX}$  supports to the team.
  - Supervised on the [mid-semester presentation](#) and [the open house event](#)
  - Helped the team to formulate [final report](#).

## Talks

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<b>Introduction to Einstein-Maxwell equations</b> Graduate Geometric Analysis Seminar at UIUC	Oct 2022
<b>The Rrenormalized Volume of Conformally compact Einstein Manifolds</b> Graduate Geometric Analysis Seminar at UIUC	Oct 2022
<b>Einstein Filling on Hyperbolic Ball</b> Graduate Analysis Seminar at UIUC	Feb 2022
<b>The Yamabe Problem</b> Graduate Geometry and Topology Seminar at UIUC	Apr 2021

## Honors & Awards

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<b>Wills Prize in Mathematics</b> , <i>University of Liverpool</i> Special honor in the examination for the degree of bachelor of science with honors.	Jul 2017
<b>IMA Prize</b> , <i>University of Liverpool</i> Outstanding performance in the final year, offered by the Institute of Mathematics and its Applications.	Jul 2017
<b>University Academic Achievement Award</b> , <i>Xi'an Jiaotong-Liverpool University</i> Top 10% of the program.	2014–2015

## Skills

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### *Python & R*

- Attended PI4 Bootcamp and did a project regarding [goodreads book analysis](#).
- Simulated solutions of a Nonlinear Schrödinger Equation and generated graphics for the solutions.

### *Mathematica*

## Services & Enrichment

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<b>International TA Panel Panelist</b> , <i>University of Illinois at Urbana Champaign</i> Discussing language requirements and how TA practices are different in the US compared to foreign countries.	Aug 2022
<b>PI4 Computational Bootcamp</b> , <i>University of Illinois at Urbana Champaign</i> Focused on Python and R for data science applications and did a project regarding <a href="#">goodreads book analysis</a> .	Jun 2020
<b>Staff-Student Liaison Committee Member</b> , <i>University of Liverpool</i> Worked as a course representative. Offered student perspective on the Mathematics department and contributed to improvements of the department.	2016–2017