

Gates Computer Science
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Stanford, CA 94305

Ante Qu

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Education

Stanford University
PhD Computer Science, GPA: 4.30/4.00
Advisor: Doug L. James

Stanford, CA
Sept 2016 – Present

Princeton University
AB Physics, *magna cum laude*, GPA: 3.85/4.00

Princeton, NJ
Sept 2011 – June 2015

Research Interests

Augmented reality, computer graphics, physics-based numerical simulations, sound synthesis

Publications

Jui-Hsien Wang, **Ante Qu**, Timothy R. Langlois, and Doug L. James. 2018
“Toward Wave-based Sound Synthesis for Computer Animation.”
ACM Transactions on Graphics. 37, 4, Article 109 (SIGGRAPH 2018)

Gabriel Cirio, **Ante Qu**, George Drettakis, Eitan Grinspun, and Changxi Zheng. 2018
“Multi-Scale Simulation of Nonlinear Thin-Shell Sound with Wave Turbulence.”
ACM Transactions on Graphics. 37, 4, Article 110 (SIGGRAPH 2018)

Conference Presentations and Other Research

Ante Qu, Alexandre Goy, and Jason Fleischer. 2015
“Phase Retrieval Using Optimized Conjugated Illumination.”
In Computational Optical Sensing and Imaging, pp. CTh1E-3. Optical Society of America, 2015.
Oral Presentation at the OSA Computational Optical Sensing and Imaging (COSI) conference in 2015.

Ante Qu, Stephane Ethier, Eliot Feibush, and Roscoe White. 2013
“Multi-threaded acceleration of ORBIT code on CPU and GPU with minimal modifications.”
Bulletin of the American Physical Society 58 (2013).
Poster Presentation at the APS Division of Plasma Physics 2013 and published as PPPL report 4996.

Undergraduate Thesis: Phase Retrieval by Flattening the Wavefront 2015
Advised by Jason Fleischer

- Designed an algorithm using a spatial light modulator (SLM) to retrieve the image of a phase-only object
- Tested in simulation (for both coherent and incoherent light) to achieve 99% correlation with the ground truth in a few thousand iterations, and created the setup for reproducing the method in experiment.

Industry Experience

Adobe, Research Scientist Intern, Creative Intelligence Lab Seattle, WA
Summer 2018

- Prototyped a fast acoustic transfer scheme that uses shape data to approximate modal sound amplitudes
- Generated a dataset of acoustic transfer solves using the Boundary Element Method (BEM)

Microsoft, Software Engineer (Full Time), Office Graphics (graphics features in MS Office suite) Redmond, WA
• Worked in a crew of 4 engineers and 2 program managers to enable Scalable Vector Graphics (svg) Aug 2015 – Aug 2016
file insertion and editing, a cross-platform cross-product feature
• Led a hackathon team to prototype a user-facing graphics feature that led to a patent

NVIDIA, Systems Software Intern, CUDA Chips team (Pascal and Volta) Santa Clara, CA
• Designed a test plan for a Pascal hardware performance-optimization feature Summer 2014
• Wrote tests to validate the functionality of a new math operation, FP64 atomic add

Selected Awards and Honors

National Science Foundation Graduate Research Fellowship (NSF GRFP) 2015 (Declined), 2017

William L. Putnam Competition 2012 Honorable Mention (top 84) 2013

International Physics Olympiad (IPhO) Gold Medalist 2011

Teaching Experience

Stanford University, Teaching Assistant 2017-2018
Cs 205A Mathematical Methods for Robotics, Vision, and Graphics Winter 2018

- Led weekly recitations and office hours to solidify student understanding
- Developed written and programming assignments, exam questions, and solutions
- Received the SCPD Remote Student Teaching Excellence Award

Cs 348C Computer Graphics: Animation and Simulation Autumn 2017

- Developed programming assignments on constrained dynamics and 2D APIC/Flip fluid simulations
- Conducted stand-in lecture for instructor

Princeton Splash, Instructor, Introduction to Bridge Spring 2014

Princeton University, Grader, PHY 104: General Physics and MAT 321: Numerical Methods Spring 2014

Service

Stanford Computer Graphics Lunch (GCafe), Social Chair 2017

Princeton Laptop Orchestra 2015

- Created a Max MSP plugin that used hand gestures from a leap motion sensor to synthesize human singing. Performed arrangements of Renaissance music using modern electronic instruments and sound technologies

Mercer County Math Circle, Co-President 2014 – 2015

References

Doug L. James
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Stanford Computer Science
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Changxi Zheng
Associate Professor
Columbia Computer Science
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Timothy R. Langlois
Senior Research Scientist
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