



Jennifer C. Cremer

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Education

University of Florida, Herbert Wertheim College of Engineering

Gainesville, FL

Ph.D, Computer Graphics & Visualization

Expected 2026

Relevant Courses: Concurrent Programming, Multimodal Data Mining

MSc, Computer Science

2018 – 2021

BS, Digital Arts & Science

2014 – 2018

External focus in Applied Physics: Statics, Thermodynamics, Fluid Mechanics

Research Experience

Jörg Peters - SurfLab, Dept. of CISE, UF

Graduate Student Researcher

2018 – Present

Undergraduate Researcher

2017 - 2018

- Refactored orphaned virtual reality (VR) software to adhere to proper data handling, object-oriented paradigms, and modern user-experience(UX) guidelines.
- Developed a custom file format to store mesh data as well as scene hierarchy relationships.
- Created a Python script for Blender to parse a custom file format to convert from mesh data and object hierarchy to soft-body surfaces with spring constraints.
- Developed report user interfaces for surgical simulation software that included screen captures of key training moments and descriptions using Qt.
- Acted as interlocutor for an interdisciplinary team with the UF Veterinary School
- Developed C++/OpenGL software for virtual reality (VR) to voxelate medical images and trace out vessels as B-spline curves.
- Converted entire project base from C++/OpenGL/OpenVR to the Unity3D Engine and C#
- Developed a virtual reality (VR) platform using Unity3D for spatial understanding and interactive modeling of CT and MRI imagery into soft body simulation models.
- Created voxelated prototype models of organ structures using machine learning techniques and ran demonstrations of the visualization with surgical teams.
- Managed project definitions and scope with collaborators in the Colorectal Oncology Team at UF Health: Shands.
- Advisor to seven undergraduate semester sub-projects for four different students.

Teaching Experience

Dept. of Computer & Information Science & Engineering, Univ. of FL

Graduate Teaching Assistant

2018 - 2024

UF at Kyoto University Summer Abroad Program

2022

Instructor on record

2020 - 2021

CIS4930: Special Topics in CISE – Performant Programming in Python

2021

CIS4930: Special Topics in CISE - Design Patterns in OOP

2020, 2021

Mentoring & Volunteering

Student Volunteer for ACM SIGGRAPH	2023, 2024
ASWF DevDays Volunteer	2023
Team Lead, Academy Software Foundation Summer Learning Program	2021, 2022
2021: Ximena Jaramillo, JaNiece Campbell, Jessica Zhou, Linda Lam	
2022: Parag Gupta, Stephanie Lim	
VFX Careers Webinar Series, Academy Software Foundation - Virtual	2021
University panelist for "VFX Careers: Technical Director"	
Lead presenter for "University Content: Building from Source with Cmake"	
Academy Software Foundation: Diversity & Inclusion Working Group	2020 - Present
Member, University Liaison, University of Florida	
Summer Learning Program Organization Team	2023, 2024

Conferences & Papers

<i>Scan2Twin: Virtual Reality for Enhanced Anatomical Investigation</i>	
IEEE Conference on Virtual Reality and 3D User Interfaces (IEEEVR 2024) (Doctoral Consortium)	
Jennifer C. Cremer	
<i>Immersive VR 3D Model for Rectal Cancer Robotic Surgery</i>	
American Society of Colon and Rectal Surgeons via Intuitive Research - 2023 - Video Abstract	
P. Mazirka, J. Cremer, J. Balch, A. Rashid, K. Ehresmann, L. Goldstein, J. Nordenstam, T.E. Read, J. Grajo, J. Peters, K. Terracina	
<i>Patient-Specific MRI VR Model Construction and Simulation</i>	
Women in Scientific Computing on Complex Physical and Biological Systems (Poster) - 2022 - Gainesville, FL	
Jennifer C. Cremer, Jörg Peters	
<i>From Scans & Model Collections to Interactive Surgical Simulation</i>	
ACS Surgeons and Engineers 2021 - Poster	
Jennifer Cremer, Ruiliang Gao, Krista Terracina MD, Jörg Peters	
<i>VascularVR (Research Exhibitor)</i>	
Academic Surgical Congress 2020 - Orlando, FL	

Grants & Awards

Research in Robotic Technology Grant - Research Foundation of the ASCRS	2021-2023
CISE Department Nominee, Outstanding Graduate Teaching Assistant Award, UF	2020
Student Participation Award, MICCAI	2020, 2021
NSF GRFP Honorable Mention, Computer Graphics and Visualization	2020

Technical Skills

Programming Languages:
C++, C#, Java, JavaScript, OpenGL, Python, WebGL
Software Packages & Tools:
Unity 3D, OpenXR, Qt, Adobe CC Suite, Autodesk Maya, Blender

Extracurricular

Advanced Open-Water SCUBA Diving – PADI certification	2016 – Present
Amateur Wildlife Photography – Nikon D7000 w/ 18mm-200mm	2012 – Present