Clayton Seitz

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OBJECTIVE

To become an inventor at the interface of computer science and physics with a focus on neural systems

EDUCATION

Doctor of Philosophy, Biophysics
University of Chicago, Chicago, IL, Expected 2025
Focus: Neural networks

Bachelor of Science, Physics
Purdue University, Indianapolis, IN, 2019
Minor: Mathematics

Bachelor of Science, Informatics
Indiana University, Bloomington, IN, 2019
Concentration: Mathematics

COMPUTER SKILLS

Languages & Software: Python, C/C++, MATLAB, Git, LaTeX

EXPERIENCE

Research Programmer 2019-2021
Indiana University, Indianapolis, IN

- Develop an image processing/computer vision, and machine learning software package for systematic quantification of fluorescent images of cells and tissues
- Utilize high performance computing clusters for high-throughput image segmentation, single particle tracking, and image registration
- Perform fluorescence in-situ hybridization in paraffin sections of the left hemisphere of the mouse brain followed by fluorescence imaging via a home-built single molecule imaging system

Undergraduate Researcher 2019-2020

- Utilize time-correlated single photon counting to characterize the sub-Poissonian emission of organic quantum dots dispersed in a thin film of poly-methyl methacrylate
- Design and utilize a 3-color imaging protocol to perform single-molecule imaging of mRNA transcripts in human epithelial kidney and osteosarcoma cells

Undergraduate Tutor 2018-2019

- Tutored undergraduate students in introductory physics courses covering classical mechanics, classical electromagnetism, and modern physics

AWARDS

PS-ON Annual Investigator Meeting Travel Award 2019
Purdue University, Indianapolis, IN

Hudson and Holland Scholarship for Diversity and Inclusion 2013-2017
Indiana University, Bloomington, IN

Founders Scholar 2013-2017
Indiana University, Bloomington, IN

Cigital Scholarship 2016-2017
Indiana University, Bloomington, IN

Dean's List 2013-2019
Indiana University, Bloomington, IN

PUBLICATIONS

Seitz C., Lin H., Vidi P., Bonin K., and Liu, J. (2019). *Investigating the chromatin mobility in response to DNA damage by single molecule imaging.* Unpublished Manuscript, Department of Physics, IUPUI, Indianapolis, IN, United States.

Seitz C., Lin H., and Liu, J. (2019). *Intranucleus Single Molecule Tracking.* Unpublished Manuscript, Department of Physics, IUPUI, Indianapolis, IN, United States

Seitz C., Lin H., Prajapati S., Bonin K., Vidi P., and Liu, J. (2019). *Spatiotemporal Quantification of Radiation-Induced 53BP1 Foci in Human Epithelial Cells*, poster, NIH/NCI PS-ON Annual Investigators Meeting. Minneapolis, MN, United States.

Seitz C., Reeser A., Li F., and Liu, J. (2019). *Machine Learning Methods in Image-Based Transcriptomics at Single Molecule Resolution*, poster, IUPUI Undergraduate Research Symposium, Indianapolis, IN, United States.