

Clayton Seitz

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OBJECTIVE	My research focuses on a mathematical description of memory formation and inference in spiking neural networks (SNNs). In general, I am interested in the application of information theory and statistical physics to simultaneously describe dynamical states and information transmission in SNNs. I focus on their storage limits ability to compress incoming signals	
EDUCATION	<p><i>Master of Science, Biophysics</i> University of Chicago, Chicago, IL, Winter 2021 Thesis: <i>Towards a theory of stable cell assembly formation in excitatory-inhibitory neuronal networks</i></p> <p><i>Bachelor of Science, Physics</i> Purdue University, Indianapolis, IN, 2019 Minor: Mathematics</p> <p><i>Bachelor of Science, Informatics</i> Luddy School of Informatics, Computing, and Engineering, Indiana University Bloomington, 2019 Concentration: Mathematics</p>	
COMPUTER SKILLS	<i>Languages & Software:</i> Python, Tensorflow, C, Git, LaTeX, Bash	
EXPERIENCE	<p><i>Research Software Developer</i> Indiana University, Indianapolis, IN</p> <ul style="list-style-type: none">• Develop an image processing software pipeline for high-throughput quantification of images in fluorescent microscopy• Utilize high performance computing clusters for image segmentation, single particle tracking, and image registration <p><i>Undergraduate Researcher</i></p> <ul style="list-style-type: none">• Utilize time-correlated single photon counting (TCSPC) to characterize the sub-Poissonian emission of organic quantum dots dispersed in a thin film of poly-methyl methacrylate (PMMA)• Design and utilize a 3-color imaging protocol to perform single-molecule imaging of mRNA transcripts in human epithelial kidney and osteosarcoma cells <p><i>Undergraduate Tutor</i></p> <ul style="list-style-type: none">• Tutored undergraduate students in introductory physics courses covering classical mechanics, classical electromagnetism, circuit analysis, and modern physics	<p>2019-2021</p> <p>2019-2020</p> <p>2018-2019</p>

<i>Information Security Intern</i> Liberty Mutual Insurance	2018-2019
• Performed attestation testing on externally facing servers	

AWARDS

<i>PS-ON Annual Investigator Meeting Travel Award</i> Purdue University, Indianapolis, IN	2019
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<i>Hudson and Holland Scholarship for Diversity and Inclusion</i> Indiana University, Bloomington, IN	2013-2017
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<i>Founders Scholar</i> Indiana University, Bloomington, IN	2013-2017
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<i>Cigital Scholarship</i> Indiana University, Bloomington, IN	2016-2017
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<i>Deans List</i> Indiana University, Bloomington, IN	2013-2019
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PUBLICATIONS