Nathan Ryan

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Education

University of Illinois at Urbana-Champaign — *Bachelor of Science in Engineering Physics 2022*

Research Interests

software development for scientific analysis; multiphysics simulations; nucleic structure and rare isotopes; nontraditional applications of nuclear science; open source science and computing; data accessibility

Research Experience

University of Illinois, Urbana Champaign Spring 2020 – present

● *Undergraduate Research Associate, Advanced Reactors and Fuel Cycles Group*: My work involved everything from technical editing to novel research on compound echo state networks and hydrogen capacity in Illinois. [**Python, SQL, LaTeX, Markdown**]

Publications

Peer-Reviewed Journals

● Amanda M. Bachmann, Roberto Fairhust-Agosta, Zoe Richter, **Nathan Ryan**, Madicken Munk, "Enrichment dynamics for advanced reactor HALEU support", Nuclear Science and Engineering (Accepted)

● Samuel G. Dotson, **Nathan S. Ryan**, Kathryn D. Huff Ph.D, "Evaluation of Weather Parameters for Renewable Energy Forecasting with Echo State Networks" (anticipated submission early 2022)

Technical Reports

●Prof. Kathryn D. Huff, Dr. Madicken Munk, et al., "Economic and Carbon Impacts of Potential Illinois Nuclear Plant Closures", Department of Nuclear, Plasma, and Radiological Engineering, UIUC (2021)

Invited Talks

Tinley Park High School, Introduction to Nuclear Science & Careers, Seminar, January 2020

TEDxYouth Evolutionary Anthropology and Involving More Youth in Science, February 15, 2019

Scholarships and Awards

● UIUC Dean's List 2020

● 2020 Excellence in Physics Scholarship

Service

● Public Relations Officer of the UIUC student American Nuclear Society chapter, 2020-2022

- Media Coordinator of the ANS student conference planning committee, 2019-2022
- Engineering Outreach Bureau Coordinator UIUC 2020-2022
- College of Engineering Student Advisor, UIUC 2021-2022

Skills

Software Packages	*Languages*	*Skills*
PyTest	Python	git/github
Sphinx	Markdown	make/CMake
TEMOA	Bash	LaTeX/BibTeX
	SQL	