

Dr. Paul M. Kump

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Summary

Creative independent with a passion for making new discoveries who welcomes life experiences with open arms and relishes any and all opportunities to teach and learn.

At the age of 14, Paul took apart the electronics of his beloved guitar to gain a better understanding of its workings. Four years later, Paul began studying electrical engineering under

the guidance of an outstanding Socratic professor who stressed independent learning and the questioning of popular thinking. After breaking for industry experience, Paul eventually graduated from the University of Iowa with his Ph.D. After completing a post-doc in computer science at Illinois Institute of Technology, Paul moved to New York to join the faculty at SUNY Maritime in the Bronx.

Education

<i>Illinois Institute of Technology</i>	Chicago, IL
NIH Postdoctoral Fellow, Computer Science	2013-2016
<i>University of Iowa</i>	Iowa City, IA
Ph.D., Electrical and Computer Engineering	2010-2012
<i>University of Iowa</i>	Iowa City, IA
M.S., Electrical and Computer Engineering	2006-2008
<i>University of Iowa</i>	Iowa City, IA
B.S.E., Electrical and Computer Engineering	2003-2006

Research Experience

<i>Illinois Institute of Technology, Medical Imaging Research Center (MIRC)</i>	Chicago, IL
Senior Research Associate	2013-present

Apply machine learning and social network techniques to large datasets in order to predict and uncover patterns in Chicago's violent crime victim and offender populations. Spatio-temporal mapping of Chicago to identify crime hot spots for more efficient use of police resources. \$800k grant awarded by NIJ in 2014.

<i>University of Iowa</i>	Iowa City, IA
Graduate Research Assistant	2010-2012

Developed model selection algorithms in the area of nuclear material detection. MATLAB programming.

Teaching Experience

<i>State University of New York Maritime College</i>	Bronx, NY
Assistant Professor of Electrical Engineering	2012-present

Teach machine learning, computer programming, senior design, analog and digital electronics, and basic electrical circuits. Write, conduct, and oversee laboratory experiments. Designed the engineering department's first online course, computer programming. Adviser of 30+ students. Perform research with undergraduate students.

<i>East-West University</i>	Chicago, IL
Adjunct Professor of Physics	2014-2015

Teach non-calculus-based physics for biological sciences, and general education physics for non-science majors. Write and oversee lab experiments. Small class sizes (< 20 students).

Engineering Work Experience

<i>Sargent and Lundy, LLC</i>	Chicago, IL
Instrumentation and Controls Engineer	2008-2010

Assisted in the development of control systems for nuclear power plants and research facilities.

Selected Publications

- Kump, P., Alonso, D. H., Yang, Y., Candella, J., Lewin, J., Wernick, M. N. (2016) "Measurement of Repeat Effects in Chicago's Criminal Social Network", *Applied Computing and Informatics*, 10.1010/j.aci.2016.01.002.
 - Kump, P., Bai, E., Chan, K., Eichinger, B. (2013) "Detection of Shielded Radionuclides from Weak and Poorly Resolved Spectra Using Group RIVAL", *Radiation Measurements*, **48**, pp.18-28.
 - Kump, P., Bai, E., Chan, K., Eichinger, B. and Li, K. (2012) "Variable Selection via RIVAL (Removing Irrelevant Variables Amidst Lasso Iterations) and Its Application to Nuclear Material Detection", *Automatica*, **48**, pp.2107-2115.
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