



KARAN SAMEL

BS, Purdue University (2017);
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What have you been doing since the publication of your article in JPUR, volume 7?

Since graduating from Purdue, I worked as a data scientist within a small startup company. During my time there I was able to work with other researchers and academics, which motivated me to pursue my graduate degree. With my background in statistics and data science, I started my PhD in machine learning at Georgia Tech in 2019. At Georgia Tech I have had the opportunity to collaborate with researchers within a broad range of data driven disciplines. I have also been able to apply my research in industry as well during internships at IBM, Amazon, and Google.

What are your career goals?

My general goal is to systematically improve knowledge retrieval systems to make data more accessible and easier to analyze. On accessibility, this means that questions regarding images or documents should be smartly retrieved through simple queries rather than manual effort. Then fine-grained questions can be asked regarding this data and should be automatically answered using the information retrieved. I envision applying such systems to improve research processes

and hypothesis testing in domains such as health care and drug discovery.

How did the research you did as an undergraduate at Purdue impact your current endeavors? What is the value of undergraduate research?

Research at Purdue propelled different aspects of my life, both from the career side as well as socially. From the research perspective I learned the fundamentals of starting in a new research field as well as learning basic research methodology. Such methods on experimentation are crucial not only for academic work, but are required to formulate and empirically test ideas in industrial settings. During this time I met and interacted with other researchers, many of whom I am in contact with today.

How did the faculty mentor relationship impact you during your time at Purdue?

The mentorship is the crucial component of my undergraduate research experience. Working with a faculty mentor and their lab gave me a glimpse into the academic research lifecycle. I was fortunate to work with Dr. Xiao Wang, who advised me during my undergradu-

ate research experience and JPUR work. This research mentorship was also a product of the statistics learning community, led by Dr. Mark Daniel Ward. This program provided a network of mentors as well as other undergraduate researchers to interact with, which made for memorable experiences. Maintaining connections with such faculty had invaluable benefits even after my time at Purdue, when I applied to graduate school and when I had questions regarding research grants.



PREDICTING ADVERTISEMENT CLICKS USING DEEP NETWORKS:
Interpreting Deep Learning Models

Student Author

 Karan Samel is a May 2017 graduate who studied computer science and applied statistics. Sameel's research interests are in the field of machine learning and deep learning predictive models. Outside of research, he has worked with residence hall organizations and the Aerial Robotics Team. Sameel plans to enter the job market of data science and machine learning and hopes to pursue a master's degree in the near future.

Mentors

 Xiao Wang is an associate professor of statistics whose research focuses on nonparametric statistics, machine learning, and artificial intelligence. He received his PhD from University of Michigan. He has received both the Graduate Student Mentoring Award and the Team Award from the College of Science. He has served as associate editor for many top statistics journals such as *Journal of the American Statistical Association* and *Technometrics*.

 Qiang Liu is an assistant professor of management at the Krannert School of Management, where he teaches digital and social media marketing. He has been recognized as a Krannert Outstanding and Distinguished Teacher for multiple years. He is an expert in marketing models, pharmaceutical and healthcare industry, digital marketing, and sharing economy. His research has been published in top journals such as *Marketing Science* and *Management Science*. He holds a BS in Information Management from Peking University and a PhD in Management from Cornell University.

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How did the experience of publishing an article in JPUR benefit you? What advice would you give to other undergraduates at Purdue who are interested in contributing to the journal?

Publishing in JPUR provided experience in writing and presenting research ideas, which I carried over to the subsequent papers I published during my PhD. For current undergraduates it is a unique opportunity to familiarize themselves with academic paper writing. Unlike larger journals and conferences, JPUR provides more personal support and feedback in the review process, which is valuable when starting on publications. Having a paper published as an undergraduate further opens opportunities to work on interesting problems in any career path.

What advice would you give to other undergraduates at Purdue who are interested in doing research?

Students typically are exploring new topics and interests during their undergraduate years. This is no different in undergraduate research, where you have time to dive deeper into areas that you find interesting. These interests may be known from the start, but it is still valuable to work on a couple of topics that pique your interest. You may be surprised to find that a certain topic is a lot more interesting than it seemed. Additionally, this gives you multiple opportunities to connect with faculty and graduate students, who provide valuable mentorship during the research journey.

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