Avishek **Kumar**

Data Scientist

5455 S Ingleside Ave 1E, Chicago IL, 60615, United States of America

732-439-4602 | avishek.raman.kumar@gmail.com | avishekrk | avishekrkumar | @avishekrk | Avishek Kumar

Professional Experience

Center for Data Science & Public Policy, The University of Chicago

Chicago,IL

Data Scientist/Research Scientist — *May. 2016 - Present*

- Created a risk assessment tool to predict which HIV+ patients are likely to drop out of care for use by the University of Chicago HIV clinic and Chicago Department of Public Health.
- Deployed a machine learning model for predicting which homes in the city of Chicago are likely to have lead hazards that lead to early childhood lead poisoning. This work was in partnership with the Chicago Department of Public Health, the Chicago Department of Innovation and Technology and Alliance HealthCare, awarded the Academy Health Local/State Innovation Prize.
- Built and deployed a machine learning system to identify which city blocks are most at risk of having water main breaks for the city of Syracuse, NY. This work has been featured in State Scoop, Water Online, and Politico and replicated in several cities.
- Developed a point-of-service model for predicting general recidivism for the Illinois Department of Corrections. Conducted a retrospective study to understand the effect of technical recidivism violations on an offender's ability to obtain future employment.
- Wrote and taught the curriculum for the Coleridge Initiative, a 3-month long course to train the heads of city and state government agencies on the use of data science methods to solve public policy problems.

Arizona State University, P.I. Associate Professor S. Banu Ozkan

Tempe, AZ

Postdoctoral Research Associate/Systems Administrator — *August 2014 - September 2016*

- Worked on problems related to protein dynamics, protein structure refinement, genetic disease prediction, and antibiotic resistance using molecular dynamics and machine learning methods.
- Wrote several software packages for studying protein dynamics and analyzing genetic disease in Python.
- Built and maintained a 1408 node supercomputer as systems administrator.
- Authored six publications in peer reviewed journals and mentored two doctoral students.

Arizona State University, P.I. Professor Michael F. Thorpe

Tempe, AZ

Graduate Research Assistant — *September 2009 - August 2014*

- Developed software packages in C++, Python, and Fortran to study amorphous materials.
- Authored five publications in peer reviewed journals. Awarded over $60,000 through multiple fellowships to fund research.

Skills

DevOps	AWS, Docker, Kubernetes, CircleCI
Software	Git, PostgreSQL, SQLite, LaTeX, Mathematica, Matlab
Programming	Python, SQL, R, C/C++, Java, FORTRAN90, HTML/CSS, JavaScript
Proficient	Parallel Computing, Pandas, NumPy, SKlearn, Machine Learning, Data Mining, GIS, Text Analysis, Network Analysis

Education

Arizona State University

Tempe, AZ

Ph.D. in Physics (Computational Condensed Matter and Biological Physics) — *December 2014*

Arizona State University

Tempe, AZ

M.S. in Physics (Phi Kappa Phi) — *December 2012*

Carnegie Mellon University

Pittsburgh, PA

B.S. in Physics with Honors — *May 2009*

Honors & Awards

2016	Data Science for Social Good Fellowship
2014	Winner Inagural Clinton Global Initiative University Codeathon
2011-2014	ARCS Foundation Fellowship for College Scientists
2009	Graduate Assistance in Areas of National Need (GAANN) Fellowship