DEBJANI SAHA

Data Scientist, Research Statistician
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EDUCATION

University of Maryland, College Park, MD   Aug. 2017 – May 2020
M.S., Computer Science | Advisor: Dr. Michelle L. Mazurek
New York University Tandon School of Engineering, New York, NY   Sept. 2016 – May 2017
Additional computer science coursework (discrete math, algorithms)
New York University, New York, NY   Sept. 2009 – May 2013
B.S., Neural Science, Magna Cum Laude | Joint Minor, Computer Science & Mathematics | Pre-Medicine Track

PROFESSIONAL EXPERIENCE

Data Scientist   Jul. 2020 – present
Ruxton Advisors, LLC; Sub-contractor for the Social Security Administration (SSA)   Baltimore, MD
- Developing machine learning (ML) models for the SSA to predict likelihood of re-employment for Title II and XVI (disability) beneficiaries; using these models to inform future re-employment outreach efforts
- Building a software package utilizing ensemble ML methods to impute missing data in the Occupational Requirements Survey (ORS) administered by the Bureau of Labor Statistics (BLS)

Graduate Research Assistant   Sept. 2018 – Aug. 2020
Maryland Cybersecurity Center, UMD   College Park, MD
- User study (interviews) interrogating attitudes towards privacy and security concerns in commercial genetic testing
- User study (surveys) evaluating lay comprehension of mathematical definitions of fairness used in machine learning

Bioinformatics Specialist / Consultant   Nov. 2015 – Dec. 2019
The Rockefeller University / Icahn School of Medicine at Mount Sinai   New York, NY
- Built custom pipelines for analyzing gene expression data (microarrays, RNA sequencing) in immunological contexts
- Worked to determine the effects of perturbations (e.g., infection, vaccination, and therapy) on human gene expression

Research Associate   Oct. 2013 – Oct. 2015
Lieber Institute for Brain Development, JHMI   Baltimore, MD
- Built pipeline to automate extraction and analysis of data from functional neuroimaging (fMRI) studies
- Worked to identify brain regions linked to both cognitive deficits in schizophrenia (SZ) and genetic inheritance

SELECTED CONFERENCE PROCEEDINGS

- **Saha, D.**, [and 4 others], & Mazurek, M.L. User attitudes on commercial genetic testing. Proceedings of 5th IEEE European Symposium on Security and Privacy (EuroS&P) 2020. Virtual Conference. [Paper]
- **Saha, D.**, [and 4 others], & Tschantz, M.C. Measuring Non-Expert Comprehension of Machine Learning Fairness Metrics. 37th International Conference on Machine Learning (ICML) 2020. Virtual Conference. [Paper]
- **Saha, D.**, [and 4 others], & Tschantz, M.C. Human comprehension of fairness in machine learning. Proceedings of the 3rd AAAI/ACM Conference on AI, Ethics, and Society (AIES) 2020. New York, NY. [Abstract] [ArXiv paper]

JOURNAL ARTICLES

- Seifert, L.L., Si, C., **Saha, D.**, [and 12 others], & Dittmann, M. The ETS transcription factor ELF1 regulates a broadly antiviral program distinct from the type I interferon response. PLOS Pathogens 2019, 15(11): e1007634. [Article]
- Wu, X., Thi, V.L.D., Huang, Y., Billerbeck, E., **Saha, D.**, [and 13 others], & Rice, C.M. Intrinsic immunity shapes viral resistance of stem cells. Cell 2018, 172(3): 423-438. [Article]
- Kaplan, C.M., **Saha, D.**, [and 5 others], & Tan, H. Estimating changing contexts in schizophrenia. Brain 2016, 139(7): 2082-2095. [Article]

SELECTED SKILLS

- **Programming**   R, Matlab, Python, Perl, Java, Linux, shell scripting (esp. Bash), LaTeX, [R] Markdown
- **Specialized software**   Tableau, Qualtrics, MaxQDA
- **Quantitative methods**   Experimental design, data analysis, statistical computing, predictive modeling
- **Qualitative methods**   Survey and interview design, user studies, grounded theory
- **Human subjects research**   Behavioral and biomedical settings, Institutional Review Board (IRB) procedures
- **Scientific communication**   Technical writing, literature research and review, data visualization
- **Languages**   Fluent in English, Bengali, basic German and Hindi; literate in English and German

HONORS & OTHER EXPERIENCE

- Member, Phi Beta Kappa Society
- Martial arts (Taekwondo, Shotokan karate, BJJ) – two black belts with sixteen years of experience