Ryan T. Willett, Ph.D.

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SUMMARY

Research scientist, data scientist, investigator, and communicator experienced in creative and efficient problem solving, hypothesis testing, modeling, and data analysis across numerous domains. Demonstrated ability to work independently and in a team environment to balance multiple technical projects on rigid timelines.

RELEVANT SKILLS

Python (numpy, pandas, scikit-learn, matplotlib/Seaborn, Flask), R (tidyr, dplyr, ggplot2), SQL, linux operating system, bash shell, Docker, AWS (EC2, S3 and Redshift), network graph analysis, machine learning (supervised, unsupervised, NLP, and neural networks), project management, technical/scientific writing, and technical/scientific presentations.

PROFESSIONAL EXPERIENCE

GRYPHON, New York, NY 2021 - present

Director of Data Scientist

- Responsible for design and production of data integration, workflow automation and CRM systems for due diligence investigations.
- Scoping, design, orchestration, and development of a system to carry out mining of probate court record data from a range of US jurisdictions using optical character recognition (OCR), NLP, entity resolution, and AWS
- Architect of internal ETL/ELT, NLP, security, data engineering, webscraping and automatic reporting libraries

Data Scientist 2020 - 2021

- ETL, analytics, and report preparation for the plaintiffs in the National Prescription Opiate Litigation MDL under direction of the expert witness Lacey Keller (now of MK Analytics) and a class action lawsuit in the health insurance space
- Built a feature engineering pipeline and risk model for a crime gun tracing platform used by a major metropolitan police department.

Freelance Data Scientist and Scientific Consultant, New York, NY 2019 - 2020

Data Science Consultant

- Litigation support for National Prescription Opiate Litigation MDL (w/ GRYPHON above)
- Built a data ingestion, analytics and visualization pipeline using network graph analysis to identify concerted bot accounts on a popular social network site thought to be involved in a disinformation campaign. A total of > 250,000 accounts were analyzed.
- Collaborated with the Shindell Lab at Duke University to build data visualizations and web applications, showcased at the Climate & Clean Air Coalition Science Policy Dialogue
- Produced a data pipeline to build and render high-resolution air quality animations from hundreds of stationary and mobile sensors over a multi-year period for presentation to the U.S. House of Representatives personnel. Additional animations of these data were included in a documentary with investigators from the University of Utah.
- Carried out ~10 scientific due diligence investigations for an Austrian-based venture capital firm specializing in biotech startup investment.

Healthcare Consultancy Group, New York, NY 2018 - 2019

Scientific Associate, *Chameleon Communications International*

- Composed, edited and verified the scientific accuracy of communication products based on clinical and scientific research data from pharma clients, including commercial materials and research abstracts/manuscripts/posters.
- Provided scientific and business intelligence support for several pharmaceutical brands at various stages of their drug development process

Memorial Sloan Kettering Cancer Center, New York, NY 2011 - 2017

Research Fellow, *Developmental Biology Program*

- Researched the assembly of (biological) neural networks and growth of brain structures from stem cells
- Studied the molecular genetics and genomics of the engrailed family of transcription factors during cerebellum development
- Conceived of and led an original research project, resulting in 1 research paper and 2 funded research grants

Columbia University, New York, NY 2011 - 2017

Graduate Student and Research Fellow*, Pharmacology Program*

- Studied the role of the transcription factor GATA2 in development of the peripheral and central nervous systems
- Conceived of and led an original research project, resulting in 1 research paper
- Developed novel tools and methodologies for manipulation of gene expression in developing rat brain, leading to 2 additional research papers with collaborators

EDUCATION

Columbia University, Ph.D. Pharmacology and Molecular Signaling
Brandeis University, Bachelor of Science in Biology (High Honors) and Biochemistry
NYC Data Science Academy, Certificate in Data Science

PUBLICATIONS

Authored or co-authored 4 original research articles and a textbook chapter on neurodevelopment

Willett RT, Bayin NS, Lee AS, et al. Cerebellar nuclei excitatory neurons regulate developmental scaling of presynaptic Purkinje cell number and organ growth. Elife. 2019;8:e50617. Published 2019 Nov 19. doi:10.7554/eLife.50617

Willett RT, Greene LA. Gata2 is required for migration and differentiation of retinorecipient neurons in the superior colliculus. J Neurosci. 2011;31(12):4444-4455. doi:10.1523/JNEUROSCI.4616-10.2011

Malagelada C, López-Toledano MA, Willett RT, Jin ZH, Shelanski ML, Greene LA. RTP801/REDD1 regulates the timing of cortical neurogenesis and neuron migration. J Neurosci. 2011;31(9):3186-3196. doi:10.1523/JNEUROSCI.4011-10.2011

Biswas SC, Zhang Y, Iyirhiaro G, et al. Sertad1 plays an essential role in developmental and pathological neuron death. J Neurosci. 2010;30(11):3973-3982. doi:10.1523/JNEUROSCI.6421-09.2010