Benjamin M. Regner

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www.benregner.com
www.linkedin.com/in/benregner
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Skills

Languages: Python, C/C++, SQL, shell, Java*, Javascript* * some experience

Tools: Jupyter Notebook, NumPy, SciPy, Pandas, scikit-learn, Matplotlib, Git, Bootstrap

Experience

Fellow at Insight Data Science, Palo Alto, CA **2016—present**

- Partnered with a start-up to augment their direct messaging platform with data-driven insights formatted for non-specialists (see www.benregner.com/blog for more details)
- Developed a Python implementation of a prediction pipeline to process and analyze user events
- Delivered Jupyter notebook describing pipeline to be integrated into partner's user interface

Postdoctoral Scholar at Univ. of California - San Diego, San Diego, CA **2014—2016**

- Engineered new features for simulation environment implementing models of diffusion-weighted magnetic resonance imaging (DW-MRI)
- Implemented a feasibility study to measure brain activity with standard DW-MRI leading to a proposal for a new multiscale modeling approach
- Operated novel MRI experiments on water phantoms and human subjects to reveal the microstructural details of grey matter in the brain

Graduate Student at The Salk Institute for Biological Studies, San Diego, CA **2007—2014**

- Designed experiments and models of molecular movement inside biological cells to explain previous experimental results that disagreed with established theory
- Derived a novel method to robustly extract statistics from single realizations of a stochastic process to replace standard techniques relying on ensemble averaging
- Built a novel fluorescence microscope to rapidly gather information in 3D volumes.
- Enhanced cellular microphysiology simulation environment to support realistic modeling of molecular crowding
- Instructed core undergraduate engineering courses of 50-100 students in topics including Fluid Dynamics, Heat Transfer, Thermodynamics, and Numerical Analysis for Multi-scale Biology

Undergraduate Research Assistant at the Univ. of Wisconsin - Madison **2004—2007**

- Designed experimental flow loops for spray impingement cooling of computer chips
- Fabricated and assembled components to produce experimental flow loops

Education

Ph.D. & M.S. Mechanical Engineering, Univ. of California - San Diego **2007—2014**

B.S. Engineering Mechanics and Astronautics, Univ. of Wisconsin - Madison **2002—2006**