Benjamin M. Regner

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Skills

Languages: Python, C/C++, SQL, shell, Java*, Javascript* * some experience
Tools: NumPy, SciPy, Pandas, scikit-learn*, Matplotlib, Git, Bootstrap

Experience

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

- Partnered with Outbound.io to augment their messaging platform for marketers with recommendations on optimal message timing and frequency.
- Developed a Python implementation of a prediction pipeline to process and analyze user events and report actionable insights for non-specialists distinguishing between repeat and lapsed consumers.
- Explained the process and results in a blog post found at benregner.com/insights.

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

- Developed computational software modeling the dynamics 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 **2008—2014**

- Explored how molecules move inside biological cells using experiments and theory.
- Built a novel fluorescence microscope to rapidly gather information in 3D volumes.
- Enhanced a biochemistry simulation environment using the physics library Bullet.
- Derived a novel method for robustly extracting statistics from single realizations of a stochastic process.
- Instructed core undergraduate engineering courses, including Fluid Dynamics, Heat Transfer, Thermodynamics, and Numerical Analysis for Multi-scale Biology.

Undergraduate Research Assistant at the Univ. of Wisconsin - Madison **2004—2008**

- 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**