

Sheena Sharma, PhD • <https://about.me/sheenas>

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SKILLS

- *Programming Languages*: Proficient in MATLAB, SQL, Python
- *Tools*: Scikit-Learn, Pandas, Numpy, Matplotlib, Seaborn, git, MySQL
- *Other*: Public speaking/presentation, technical scientific writing and editing, mentoring/leadership, project management, data analysis

COURSEWORK RELEVANT TO DATA SCIENCE

- Biophysical Signal Processing in MATLAB (Northwestern University)
- Data Science in Python (General Assembly)
- Data Science Intensive (Springboard)

WORK EXPERIENCE

Fellow, Insight Data Science (San Francisco Bay Area)

Jan 2017-Present

- Developed model to predict hospital readmission rates for heart failure
- Trained and validated model to predict hospital readmissions using Pandas and Scikit-learn
- Created web-app for insurance companies that predicts hospital readmission rates and describes important features for hospital readmission by state

Postdoctoral Research Fellow, Auckland University of Technology, New Zealand

April 2016-Oct 2016

- Independently analyzed a variety of brain scans collected through various techniques (magnetic resonance imaging (MRI), functional MRI, diffusion weighted imaging, and magnetic resonance spectroscopy)
- Wrote bash scripts to carry out analysis of large data sets (over 200gb of imaging data)

Leadership

- Self-learned brain scan analysis techniques and subsequently developed purpose-written bash scripts for large-scale analysis

Sourcing Manager-Science Exchange (Palo Alto, CA)

May 2015-Present

- Sourced large-scale scientific experiments up to \$1,000,000 for biopharmaceutical researchers
- Created high-level proposals detailing scientific protocols for each scientific experiment and the different academic and commercial laboratories that can perform each study
- Regularly provided scientific consulting to researchers to help inform the scope of work across many experiment types, ranging from in vivo studies to multi-session clinical trials

Leadership

- Began initiative to mine data relating to the value of projects sourced
- Regularly presented data and figures to CEO and executive team to inform business decisions

Graduate Student Researcher-Northwestern University/Neuralplasticity Lab/Dr. James Stinear

June 2008-June 2015

- Responsible for designing and conducting research on stroke patients to understand the biomechanics of gait initiation after stroke using such techniques as force plates, motion capture, electromyography (EMG) and Diffusion Tensor Imaging (DTI)
- Routinely carried out advanced computation and statistical techniques on large data sets and brain scans using self-written scripts in MATLAB and other similar programming languages

Leadership and Collaborations

- Jointly setup a new laboratory of \$100,000 including purchasing, setting up, and validating technical equipment
- Actively mentored and managed MSc students and undergraduate students in designing, creating, and carrying out experiments
- Co-taught several graduate and undergraduate level classes in biomechanics and neuroanatomy

ADDITIONAL LEADERSHIP EXPERIENCE

Gavel Club (Toastmasters) Volunteer, Auckland, NZ.

July 2014 – Dec 2014

- Delivered one-on-one speech support for patients with Aphasia (Speech disabilities due to stroke)
- Worked with a team on to plan and market annual fundraising event

EDUCATION

Doctorate of Philosophy, Neuroscience (Movement Rehabilitation Science), Northwestern University, Evanston, IL

June 2015

- Thesis Title: Gait Initiation After Stroke: A Biomechanical and Neurophysiological Approach

Bachelor of Arts, International Studies and Biology, The University of Chicago, Chicago, IL

June 2008

- BA Thesis Title: Devising an effective plan to alleviate AIDs in Rwanda

TALKS / POSTER PRESENTATIONS / PUBLICATIONS

1. Sharma S, Lewis, G, Rice DA, McNair P. "Neurophysiological and biomechanical changes during gait initiation in chronic stroke patients." September 2016 (upcoming). *Invited Talk*. University of Technology, Sydney, Australia.
2. Sharma S, Lewis, G, Rice DA, McNair P. "White matter changes in chronic pain." August 2016. *Invited Talk*. Australasian Winter Conference on Brain Research, Queenstown, New Zealand.
3. Sharma S, McMorland AJC, and Stinear JW. "Mediolateral and Anterior Ground Reaction Forces During Gait Initiation in Chronic Stroke." 2014. *Poster*. Australasian Winter Conference on Brain Research, Queenstown, New Zealand.
4. Sharma S, and Stinear, JW, "Using Non Invasive Brain Stimulation to Modulate Anticipatory Postural Adjustments in Chronic Stroke." July 2012. *Poster*. International Society of Electrophysiology and Kinesiology, Brisbane, Australia.
5. Sharma S, McMorland AJ, Stinear JW. Stance limb ground reaction forces in high functioning stroke and healthy subjects during gait initiation. *Clin Biomech*. 2015;30(7):689-95.
6. Sharma, S, McMorland, AJC, Stinear, JW. Erector Spinae Activity Relates to Lateral Ground Reaction Forces During Gait Initiation After Stroke (*accepted with revisions at Clinical Neurophysiology*).
7. Steinle, JJ, Sharma, S, Smith, CP, McFadyen-Ketchum, LS, "Normal Aging Involves Modulation of Specific Inflammatory Markers in the Rat Retina and Choroid", *J Gerontol*. 2009;64A(3):325-331.
8. Steinle, JJ, Sharma, S, and Chin, VC, "Normal Aging Involves Altered Expression of Growth Factors in the Rat", *The J Gerontol*. 2008;63(2):135-40.
9. Smith, CP, Sharma, S, Steinle, JJ, "Age-related Changes in Sympathetic Neurotransmission in Rat Retina and Choroid", *Exp Eye Res*. 2007;84(1):75-81.