IAN PAN

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EDUCATION

Brown University — **Doctor of Medicine** — **(expected) 2020**
Providence, RI

Brown University — **Master of Arts** — **2016**
Providence, RI — *Biostatistics*

Brown University — **Bachelor of Science** — **2016**
Providence, RI — *Applied Mathematics-Biology*

EXPERIENCE

Brown University
Providence, RI

Medical Student Researcher — **9/2016 – Present**

- Project: *Machine learning approaches to identification of intracranial hemorrhage in CT scans*
- Use python (scikit-learn, TensorFlow, Caffe) to train, validate, and test machine learning algorithms for classification and segmentation using DICOM imaging data

Undergraduate Researcher — **9/2015 – 5/2016**

- Honors thesis: *Machine learning approaches to prediction of type 2 diabetes*
- Used data from the Jackson Heart Study, Framingham Heart Study and Women's Health Initiative to develop predictive risk models for type 2 diabetes
- Developed data processing and machine learning pipeline using R

University of Chicago — **5/2015 – 8/2015**
Chicago, IL

Data Science Fellow, Eric & Wendy Schmidt Data Science for Social Good Fellowship

- Engineered a data processing pipeline for administrative data from the Illinois Department of Human Services to be used for analysis using SQL and python
- Developed a machine learning pipeline to predict the likelihood of a woman having an adverse birth to improve risk assessment for intervention eligibility using python
- Surpassed previous approach by up to 1.5 times the previous precision
- Pan I et al. Machine Learning for Social Services: A Study of Prenatal Case Management in Illinois. *Am J Public Health.* 2017; e1-e7. doi: 10.2105/AJPH.2017.303711

Harvard-MIT Health Sciences and Technology — **6/2014 – 8/2014**
Cambridge, MA

Research Assistant, i2b2-HST Bioinformatics and Integrative Genomics Summer Institute

- Project: *Identifying Crohn's disease comorbidities: an assessment of refined matching and large-scale hypothesis testing methodologies*
- Performed analyses and experiments on electronic health records from Partners HealthCare to assist in data mining of disease comorbidities using R
- Methodologies employed included estimation of the empirical null distribution, conditional logistic regression and multiple testing correction (false discovery rate, Bonferroni)

SKILLS

Programming Languages	Areas of Expertise
R (expert)	Machine learning
python (proficient)	Statistics
SQL (proficient)	Computational biology
bash (proficient)	Predictive analytics
HTML/CSS (basic)	Electronic health records
Java (basic)	Genomics