

Scott Piraino

CONTACT

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EDUCATION

MS in Medicine and Medical
Sciences (Bioinformatics focus)

Nov 2014 — May 2017

University College Dublin

Research master's focusing on bioinformatics analysis of cancer genomics datasets.

Thesis project: Identification of noncoding driver mutations in cancer

- Large scale analysis of publicly available cancer mutation datasets
- Extensive use of both UNIX command line and R for processing data and statistical analysis
- Responsibility for the entire data analysis pipeline, from acquisition of data to analysis and presentation

Clinical collaboration:

- Responsible for exploratory analysis as part of a collaboration with a local clinician
- Analysis includes assessment of tumor heterogeneity, driver mutations, and correlation of genomic features with treatment outcome

Both projects include using the high performance computing cluster run by the Irish Center for High Performance Computing.

Other activities:

- Member of the organizing committee for the institutes annual graduate student symposium

BS in Biology

Aug 2010 — Dec 2013

American University

Relevant courses:

- Introduction to Computer Science I
- Intermediate Statistics
- Advanced Biostatistics
- Bioinformatics

Senior honors thesis title: Differential selections acts on tumor suppressor genes and oncogenes in human cancers

Coursework and interests included:

- Data analysis in R
- Analysis of cancer genomic datasets
- Machine learning

TECHNICAL SKILLS

R,Python,UNIX/command line, some SAS, some SQL, some experience in high performance computing

EXPERIENCE

DREAM 9 Acute Myeloid Leukemia Outcome Prediction Challenge

June 2014 — Sept 2014

DREAM 9 Contestant

- The DREAM 9 Acute Myeloid Leukemia Outcome Prediction Challenge was an online challenge that tasks teams with using clinical and proteomic features to predict outcomes for patients with acute myeloid leukemia
- used machine learning methods implemented in R using the "caret" package to make predictions
- final submissions, evaluated on held out data, were ranked 4th among all participants for two of the three subchallenges, and 5th for the third subchallenge. The challenge is described at <https://www.synapse.org/#!Synapse:syn2455683/wiki/64007> and the final results are available at <https://www.synapse.org/#!Synapse:syn2455683/wiki/70754>

American University Academic Support Center

Jan 2013 — Dec 2013

Supplemental Instructor

- Lead supplemental help sessions for a class of close to 50 physics students
- designed exercises and practice problems to help students understand concepts reviewed in lecture
- Responsible for guiding discussion during review sessions

MetroHealth Medical Center

June 2012 — Aug 2012

Chester Scholar

- Observed clinicians throughout the hospital, including in the OR and on rounds
- Reviewed charts of neonates in the NICU
- Assisted with statistical analysis of data obtained from chart review

pystatsmodels

April 2011 — Sept 2011

Volunteer Programmer

- Implemented various survival models and functions for an open source library in python
- Contributed to the pystatmodels GitHub repository

PUBLICATIONS

S. W. Piraino and S. J. Furney. **Beyond the exome: the role of non-coding somatic mutations in cancer.** Ann Oncol. Published November 23, 2015.

S. W. Piraino and S. J. Furney. **Identification of coding and non-coding mutational hotspots in cancer genomes.** BMC Genomics. Published January 7, 2017.