Malvika Pillai

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EDUCATION

PhD Student, Health Informatics **Expected December 2021**
Carolina Health Informatics Program, University of North Carolina at Chapel Hill

BS, Quantitative Biology **May 2017**
University of North Carolina at Chapel Hill
Minors: Information Science and Medical Anthropology

SKILLS

Advanced– Python, R, Matlab, Bash, MySQL
Intermediate– Perl, Java, HTML/CSS, PHP
Beginner– Objective-C, C

RESEARCH INTERESTS

Drug repurposing * machine learning * text mining * precision medicine * genomics * natural language processing *

RESEARCH EXPERIENCE

Intern *[Python]* **June 2019 – July 2019**
National Library of Medicine, National Institutes of Health, Bethesda, MD

- Collaborated with team to investigate chemical entity recognition tools for MEDLINE indexing
- Helped create annotated corpus for chemical entity recognition system evaluation

Graduate Research Assistant *[Python]* **July 2018 – Present**
Department of Radiation Oncology, Chapel Hill, NC

- Using machine learning approaches to improve the effectiveness of chart checking and reduce cognitive workload by flagging cases requiring additional manual and cognitive scrutiny

Intern *[Python]* **May 2018 – August 2018**
Renaissance Computing Center, Chapel Hill, NC

- Used machine learning approaches applied to biomedical data for patient stratification and decision support

Biomedical Informatics Pre-Doctoral Fellow *[Python, R]* **August 2017 – Present**
National Library of Medicine, National Institutes of Health
Wu Lab, Chapel Hill, NC

- Using omics-based methods to predict candidates for cancer drug repurposing
- Using text mining and natural language processing techniques for validation of cancer drug repurposing candidates

Undergraduate Research Assistant *[Matlab, Python]* **August 2016 – May 2017**
Magness Lab, Chapel Hill, NC

- Maintained and developed computer vision platform to facilitate high-content organoid assays on microarrays
- Conducted 3D image reconstruction
- Presented poster at Undergraduate Research Symposium in April 2017

Undergraduate Research Assistant *[Perl]* **September 2015 – March 2016**
Wiltshire Lab, Chapel Hill, NC

- Developed scripts for next-generation sequencing data analysis

TEACHING EXPERIENCE

Instructor **May 2018 – July 2018**
ENABLE Health Informatics Data Analytics and Visualization Boot Camp

- Genomics instructor for underrepresented minority students currently enrolled in undergraduate programs

Teaching Assistant **January 2018 – May 2018**
INLS 560 Programming for Information Professionals ***[Python]***
- Teaching assistant for David Gotz

PROJECTS
Drug-Disease Connection Classification (Individual) **August 2017 – Present**
- Class project ***[Python]***
- Identifying positive or negative connection between drugs and breast cancer in primary literature

Patient Diagnosis Prediction Model (Team) **August 2017 – December 2017**
- Class project ***[Python]***
- Developed model to predict patient's primary diagnosis from hospital discharge summary information

PUBLICATIONS
Pillai M, Adapa K, Das SK, et al. Using artificial intelligence to improve the quality and safety of radiation therapy. *J Am Coll Radiol* 2019;16(9 Pt B):1267-1272. doi:10.1016/j.jacr.2019.06.001.

PRESENTATIONS
Pillai M, Adapa K, Das SK. Using Machine Learning to Augment Quality Assurance Measures in Radiation Oncology. Presentation at the National Library of Medicine Informatics Training Conference; June 2019; Indiana University, Indianapolis, IN.

Stemerman R, Griffin A, **Pillai M**, Adapa K. Social Living platform: Leveraging patient-generated data to reduce social isolation in older adults. Poster presentation at the American Medical Informatics Association (AMIA) Annual Symposium; November 2018; San Francisco, CA.

Pillai M, Wu D. Literature Mining for Validation of Genetics-Based Breast Cancer Drug Repurposing. Presentation at the National Library of Medicine Informatics Training Conference; June 2018; Vanderbilt University, Nashville, TN.

PROFESSIONAL MEMBERSHIPS
American Medical Informatics Association Student Member **June 2018 – Present**