PRAPHULLA BHAWSAR

AI Engineer / PhD Student

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Education

- **PH.D. in Bioinformatics** | ***Stony Brook University, NY*** — AUG 2021 - Present
- **MASTER OF SCIENCE** | ***New York University, NY*** — AUG 2017 - MAY 2019
  Major: Computer Science / Data Science

Experience

DOCTORAL FELLOW | ***National Cancer Institute, Rockville, MD*** — AUG 2021 – Present

DATA ENGINEER | ***National Cancer Institute, Rockville, MD*** — MAR 2019 – AUG 2021

- Working with the Data Science & Engineering Group to orchestrate medical image analysis on the edge in cancer research.
- Created dashboards for tracking excess mortality due to COVID-19 using real-time data put out by the CDC.
- Conducting research on applying AI to digital pathology and radiology imaging data to assist domain experts in their analyses.

LEAD DEVELOPER | ***NYU Student Tech Innovation, NY*** — SEP 2017 - MAR 2019

- Led the technology team of the Student Tech Innovation group at NYU to create innovative applications for the NYU community.

FULL STACK DEVELOPER | ***Reliance Jio Infocomm Ltd., India*** — JUN 2015 - JUL 2017

- Lead backend engineer for the JioTV2.0 live TV streaming application, currently used by over 100 million people in India. Helped redesign the backends of several apps as part of the core R&D team; also worked on multiple PoCs and exploratory projects.

Projects

- **epiPath – Digital Pathology in the Browser:** Designed an open source platform to orchestrate the entire medical image analysis pipeline, from raw data to model inference, entirely on the local machine. The zero-footprint web application has no backend; instead it makes use of cloud storage offerings for data governance and TensorFlow.js to run neural networks in the web browser, allowing for user-defined annotations, active learning and model inference at zero cost.
- **Galaxy Morphology Classification Using CNNs:** Compared the performance of an uninitialized VGG-19 CNN to one that was trained on another dataset first in order to solve the problem of classifying galaxies by morphology from sky survey images, clearly demonstrating the advantages of using Transfer Learning on sparse astronomical datasets.

Technical Skills

Languages & Frameworks : JavaScript, Node.js, Python, Golang, TypeScript, ReactJS, HTML, CSS, PHP

Libraries, Databases et al.: TensorFlow, TF.js, Keras, PyTorch, SQL, OpenCV, MongoDB, Elasticsearch, Redis, Couchbase, Firestore, BigQuery, Tableau, D3.js, Plotly.js, Nginx

Publications

- Almeida, J. S., Shiels, M., Bhawsar, P., Patel, B., Nemeth, E., Moffitt, R., Closas, M. G., Freedman, N., & Berrington, A. Mortality Tracker: the COVID-19 case for real time web APIs as epidemiology commons, Bioinformatics (2020).
- Zhang, T., Joubert, P., Ansari-Pour, N. et al. Genomic and evolutionary classification of lung cancer in never smokers, Nature Genetics (2021).
- Bhawsar PM, Abubakar M, Schmidt MK, Camp NJ, Cessna MH, Duggan MA, Garcia.Closas M, Almeida JS. Browser-based data annotation, active learning, and real-time distribution of artificial intelligence models: from tumor tissue microarrays to COVID-19 radiology, Journal of Pathology Informatics (2021).