Machine Learning for Healthcare and other applications: Work from the Panacea Lab at Georgia State University

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At Panacea Lab (www.panacealab.org) we aim to build machine learning, computer vision, and NLP methods that help to generate insights from multi-modal large-scale data sources. With applications to precision medicine, medical informatics, astroinformatics and other domains, our work addresses domain-specific problems with data science methods and practices. Additionally, we are fully invested in helping science reproducibility by releasing (when possible) open-source and publicly available datasets and tools to aid reproducibility efforts.

Dr. Juan M. Banda works with large volumes of image data, extracting and transforming computer vision image features into large content-based image retrieval systems for NASA's Solar Dynamics Observatory mission. His research interests are not limited to image data, he is also well-versed in extracting terms and clinical concepts from millions of unstructured electronic health records and using them to build predictive models (electronic phenotyping) and mine for potential multi-drug interactions (drug safety). His work in electronic phenotyping include leading the development of Aphrodite, a tool that allows researchers to build phenotypes using fuzzy labels. Dr. Banda has published over 50 peer reviewed journal and conference papers. Prior to being an assistant professor of Computer Science at Georgia State University, Dr. Banda was a postdoctoral scholar, then a research scientist at Stanford's center of Biomedical Informatics. He is an active member of the Observational Health Data Sciences and Informatics and his work has been funded by NASA, NSF and NIH. We are currently recruiting students, if interested, let's talk!