

Research Statement

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I became a researcher owing to my curiosity and desire for knowledge. I gain satisfaction in learning how things function. My research career started in 2012 and has since thrived. I do research in the exciting fields of **medical imaging**, **machine learning for systems**, and **data mining**.

- 1 I believe in contributing to society, and the advancements of AI in healthcare have laid the foundation for significant contributions in the domain of biomedical engineering. Machine learning has the potential to aid in the early diagnosis of diseases and improve clinically relevant tools for disease understanding.
- 2 The essence of data mining is discovering and extracting information from data. Rapidly growing social media data mining can answer interesting questions and improve understanding of public health, social networks, recommendation engines, and social media.
- 3 Machine learning interplayed with reinforcement learning can potentially improve the design and construction of next-generation computer systems. Such advanced computer systems will adapt to user behavior and accordingly detect and address workloads and system needs.

Topics

1 Medical Imaging

- 1.1 Denoising Ophthalmology
- 1.2 Pathology images and RNA-Seq modeling (ongoing)

2 Data Mining (Social media, IoT, VR)

- 2.1 1B COVID-19 Tweets
- 2.2 Internet of Things (IoT) for Healthcare and Agriculture
- 2.3 Virtual Reality (VR) Accelerated Ophthalmology Diagnostics (ongoing)
- 2.4 Quality of Crowdfunding

3 Machine Learning for Systems

- 3.1 Deep Learning Powered Database
- 3.2 Machine Learning for Compilers

References