

## Education

- 2020–Present **Ph.D. in Computer Science**, *Arizona State University*, GPA: 3.9/4.0.  
Research Area: Deep Learning, Computer Vision, Medical Imaging  
Advisors: Teresa Wu and Baoxin Li
- 2018–2020 **M.S. in Computer Science**, *Arizona State University*, GPA: 3.8/4.0.
- 2014–2018 **B.Tech. in Information and Communication Technology**,  
*Dhirubhai Ambani Institute of Information and Communication Technology*, GPA: 7.45/10.0.

## Experience

- May'20–Present **Arizona State University**, RESEARCH ASSISTANT.  
Research focused on Anomaly Detection and Super-resolution in medical imaging, Brain Age prediction, Genome analysis using deep learning, and biomarker discovery in neurological disorders
- May–Aug'24 **Dolby Laboratories**, PH.D. RESEARCH INTERN.  
Context-aware Music Recommendations using multimodal scene data and large language models (LLMs)  
*Manager: Andrea Fanelli*
- May–Aug'22 **Amazon**, RESEARCH SCIENTIST INTERN.  
Deep learning-based marker-less biomechanical analysis of human workouts using Human Pose Estimation  
*Manager: Yaar Harari*
- Dec–May'20 **Arizona State University**, GRAD RESEARCH & TEACHING ASSISTANT.  
Machine Learning for Art Authentication & Teaching Assistant in Dept. of Computer Science  
*Advisors: Prof. Frank Wilczek (Nobel Laureate in Physics), Prof. Nathan Newman*
- Jun–Aug'19 **Philips Research Labs**, RESEARCH & DEVELOPMENT INTERN.  
Contactless patient monitoring and vitals measurement tool using deep learning  
*Managers: Kees van Zon, Haibo Wang*
- Jan–May'18 **HackerRank**, MACHINE LEARNING ENGINEER INTERN.  
Real-time user-feedback analysis using Machine Learning (ML), curated coding challenges for ML interviews  
*Managers: Heraldo Memelli*
- May–Aug'17 **Nanyang Technological University**, VISITING UNDERGRAD RESEARCH INTERN.  
Significance-based large-scale 3D point cloud compression and representation  
*Advisor: Prof. Lin Weisi*

## Publications

### In Conference Proceedings

- 2024 Jay Shah, Md Mahfuzur R. Siddiquee, Yi Su, Teresa Wu, and Baoxin Li. Ordinal classification with distance regularization loss for robust brain age prediction. *WACV*, 2024.
- 2024 Md Mahfuzur R. Siddiquee, Jay Shah, Teresa Wu, et al. Brainomaly: Unsupervised neurologic disease detection utilizing unannotated t1-weighted brain mr images. *WACV*, 2024.
- 2022 Md Mahfuzur R. Siddiquee, Jay Shah, Teresa Wu, et al. Healthygan: Learning from unannotated medical images to detect anomalies associated with human disease. In *MICCAI SASHIMI*, 2022.

### Journal Articles

- 2023 Jay Shah, Md Mahfuzur R. Siddiquee, Janina Krell-Roesch, et al. Neuropsychiatric symptoms and commonly used biomarkers of alzheimer's disease: A literature review from a machine learning perspective. *Journal of Alzheimer's Disease*, 2023.
- 2023 Md Mahfuzur Rahman Siddiquee, Jay Shah, et al. Headache classification and automatic biomarker extraction from structural mris using deep learning. *Brain Communications*, 2023.

2022 [Jay Shah](#), Fei Gao, Baoxin Li, et al. Deep residual inception encoder-decoder network for amyloid pet harmonization. *Alzheimer's & Dementia*, 2022.

### Communicated Articles

2024 Yiming Che, Fazle Rafsani, [Jay Shah](#), Md Mahfuzur R. Siddiquee, Teresa Wu, AnoFDM: Anomaly Detection with Forward Process of Diffusion Models for Medical Images, *MICCAI*, 2024.

2024 [Jay Shah](#), Yiming Che, Teresa Wu, Image guided PET super-resolution to improve Amyloid PET quantification using latent diffusion models, *MICCAI*, 2024.

2023 [Jay Shah](#), Jeremy Syrjanen, Janina Krell-Roesch, et al., Predicting cognitive decline from neuropsychiatric symptoms and Alzheimer's disease biomarkers: A machine learning approach using population-based data, *Alzheimer's & Dementia*.

2023 Maitry Trivedi, Amogh Manoj Joshi, [Jay Shah](#), Benjamin Readhead, et al., Interpretable deep learning framework towards understanding molecular changes associated with neuropathology in human brains with Alzheimer's disease, *Alzheimer's & Dementia*.

### Conference Abstracts

2024 (**Oral presentation**) [Jay Shah](#), Md Mahfuzur R. Siddiquee, Catherine Chong, et al. Capturing mri signatures of brain age as a potential biomarker to predict persistence of post traumatic headache. In *AAN and NIH HEAL Annual Meeting*, 2024.

2024 Md Mahfuzur R. Siddiquee, [Jay Shah](#), Catherine Chong, et al. Applying generative adversarial network on structural brain mri for unsupervised classification of headache. In *AAN and NIH HEAL Annual Meeting*, 2024.

2024 Amogh Joshi, Md Mahfuzur R. Siddiquee, [Jay Shah](#), Catherine Chong, et al. Prediction of headache improvement using multimodal machine learning in patients with acute post-traumatic headache. In *AAN and NIH HEAL Annual Meeting*, 2024.

2023 [Jay Shah](#), Jeremy Syrjanen, Janina Krell-Roesch, et al. Participant-specific interrogation of population-based data to predict cognitive decline from neuropsychiatric symptoms and neuroimaging biomarkers: A machine learning approach (p12-6.001). *Neurology*, 2023.

2023 [Jay Shah](#), Javad Sohankar, Ji Luo, Yinghua Chen, et al. A 2.5 d residual u-net for improved amyloid pet harmonization preserving spatial information. *Alzheimer's & Dementia*, 2023.

2023 [Jay Shah](#), Ji Luo, Javad Sohankar, Eric Reiman, et al. A multi-class deep learning model to estimate brain age while addressing systematic bias of regression to the mean. *Alzheimer's & Dementia*, 2023.

2023 Amogh Joshi, [Jay Shah](#), Benjamin Readhead, et al. Interpretable deep learning framework towards understanding molecular changes associated with neuropathology in human brains with alzheimer's disease. *Alzheimer's & Dementia*, 2023.

2022 [Jay Shah](#), Valentina Ghisays, Yinghua Chen, et al. Mri signatures of brain age in the alzheimer's disease continuum. *Alzheimer's & Dementia*, 2022.

2022 Md Mahfuzur R. Siddiquee, [Jay Shah](#), Todd Schwedt, Catherine Chong, et al. Classification of post-traumatic headache using deep learning on structural brain mri data. In *HEADACHE*, 2022.

### Patents

2024 (filed) User-guided context-aware music recommendations, 08/05/2024, [Jay Shah](#), Shanti Stewart, Gauri Jagatap, Gouthaman KV, Andrea Fanelli.

2022 (WO2023/101959A1) Deep Residual Inception Encoder-Decoder Network for Amyloid PET Harmonization, 12/01/2022, Fei Gao, Yi Su, [Jay Shah](#), Teresa Wu.

### Skills

Programming Python, C/C++, Java, Matlab, SQL, Shell Scripting

Deep Learning PyTorch, TensorFlow, Keras, R-Studio, Tableau, scikit-learn, NLTK, OpenCV

WebD HTML/CSS, Javascript, d3, Google Compute and App Engines, AWS, MySQL, PostgreSQL

Relevant Coursework Human Aware-AI, Digital Image Processing, Vision & Language Frontiers, Game Theory Algorithms and Applications, Natural Language Processing, Theoretical Computer Science, Fundamentals of Statistical Learning, Data Mining, Software Design, Cloud Computing, Distributed Database Systems

## Invited Talks and Highlights

- Feb'24 Heard on the Street – 2/15/2024, [↗InsideBigData](#).
- Oct'23 Chip industry strains to meet AI-fueled demands-will smaller LLMs help?, [↗ComputerWorld](#).
- Jun'23 Invited speaker on PhD student Panel, *Summer Research Initiative, ASU*.
- Oct'22 Invited Young Professional speaker, *IEEE IAS Annual Meeting, Detroit*.
- Mar'22 Using AI to battle Alzheimer's, [↗FullCircle, ASU](#), [↗ASU News](#).
- Jun'22 Fulton School CS Doctoral student & researcher explores the quickly evolving world of AI and related smart tech advances on popular podcast, [↗FullCircle, ASU](#).
- Nov'21 Three Ways Deep Learning Yields New Insights for Medical Researchers, [↗IEEE Transmitter](#).
- Oct'21 Deep Residual Inception Encoded-Decoder Network for Amyloid PET Harmonization, *Alzheimer's Imaging Consortium Spotlight Webinar, Neuroimaging PIA*.
- Oct'21 Landscape of Interpretable AI, its limitations and glance at Shapley Values, [↗Emerging Research Topics in Engineering, IEEE Gujarat Section](#).
- Sep'21 Landscape of Explainable AI, interpreting DL predictions and observations from hosting an ML podcast, [↗4th OnCV&AI workshop, Nordling Lab, National Cheng Kung University in Taiwan](#).
- Jun'21 From DAIICT to ASU and working with Nobel Laureate Frank Wilczek, [↗DAIICT Blog](#).
- Sep'21 How AI could revolutionize biology-and vice versa, [↗AXIOS](#).
- Apr'21 Scaling up a technical podcast, [↗IEEE Spectrum](#).
- Apr'21 Behind the scenes with Machine Learning Expert, [↗Curryup Leadership Podcast](#).
- Mar'22 Workshops, *ASU's AI Club, on Python Basics* [↗2020](#), and *CNNs* [↗2020](#), [↗2021](#).

## Services and Awards

- **Journal Reviewer:** ACM TIST, Alzheimer's & Dementia, Frontiers In Aging Neuroscience
- **Conference Reviewer:** MICCAI'23-24, MIDL'24, AAIC'22-24, ICLR'24 MLGenX, ICHI'24
- **Organizing:** INFORMS'23 (Session Chair)
- Graduate Research Assistantship, ASU (May'20 - Present)
- National Institute of Health (NIH) Travel Award, ASU (Dec'23)
- GPSA Travel Award, ASU (Dec'23)
- Graduate College Travel Award, ASU (Oct'23)
- Travel Grant, Alzheimer's Association International Conference (2021)
- [↗IEEE Impact Creator Award](#)
- Travel Grant, CVPR (2019)
- Travel Grant, IEEE-IAS Annual Meeting Ex-Com (2017, '18, '19)

## Leadership Activities

- AI Podcast Host (*5,000+ subscribers, 250K+ downloads*) [▶ YouTube](#)  
Media mentions:
  - 20 best Machine Learning Podcasts of 2021 [↗Welp Magazine](#)
  - A hand-curated list of the best AI Podcasts [↗AI Depot](#)
  - 5 Best Machine Learning & AI Podcasts [↗Unite dot AI](#)
  - 8 of the best machine learning podcasts to listen to in 2022 [↗Qwak MLOps](#)
- IEEE-IAS Subcommittee Chair (Aug'18 - Aug'22)
- Technical Director, AI Club, ASU (Jan'20 - Dec'21)
- Chairperson, IEEE-IAS DAIICT (Jan'17 - Dec'17)