

# Jay Shah

Ph.D. Candidate

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## Education

- 2020–2025 **Ph.D. in Computer Science**, *Arizona State University*, GPA: 3.9/4.0.  
Research Area: Deep Learning, Computer Vision, Medical Imaging  
Advisors: Profs. 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 3D computer vision, anomaly detection, image super-resolution, and generative models.  
Thesis: Developing novel Deep Learning algorithms for Early Detection of Medical disorders
- May–Aug'24 **Dolby Laboratories**, *RESEARCH INTERN*.  
Prototyped context-aware Music recommendations using multimodal scene data and large vision-language models (LVLMs). Manager: Andrea Fanelli
- May–Aug'22 **Amazon**, *RESEARCH SCIENTIST INTERN*.  
Developed a real-time deep learning-based marker-less biomechanical analysis tool of human workouts using Human Pose Estimation. Manager: Yaar Harari
- Dec–May'19 **Arizona State University**, *GRAD RESEARCH ASSISTANT*.  
Research on Machine Learning (ML) for automated Art Authentication.  
Advisors: Profs. Frank Wilczek (Nobel Laureate in Physics), Nathan Newman
- Jun–Aug'19 **Philips Research Labs**, *RESEARCH & DEVELOPMENT INTERN*.  
Developed a prototype of contactless patient monitoring and vitals measurement tool using deep learning.  
Managers: Kees van Zon, Haibo Wang
- Jan–May'18 **HackerRank**, *MACHINE LEARNING ENGINEER INTERN*.  
Built a real-time user-feedback analysis tool using machine learning (ML) and curated coding challenges for ML interviews. Manager: Herald Memelli
- May–Aug'17 **Nanyang Technological University**, *RESEARCH INTERN*.  
Research on significance-based large-scale 3D point cloud compression and representation  
Advisor: Prof. Lin Weisi

## Publications

### In Conference Proceedings

- 2025 Yiming Che, Fazle Rafsani, [Jay Shah](#), et al. Anofpdm: Anomaly segmentation with forward process of diffusion models for brain mri. *WACV*, 2025.
- 2024 [Jay Shah](#), MMR Siddiquee, Yi Su, Teresa Wu, and Baoxin Li. Ordinal classification with distance regularization loss for robust brain age prediction. *WACV*, 2024.
- 2024 MMR Siddiquee, [Jay Shah](#), Teresa Wu, et al. Brainomaly: Unsupervised neurologic disease detection utilizing unannotated t1-weighted brain mr images. *WACV*, 2024.
- 2022 MMR 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

- 2025 [Jay Shah](#), Janina Krell-Roesch, et al. Predicting cognitive decline from neuropsychiatric symptoms and alzheimer's disease biomarkers: A ml approach to a population-based data. *Journal of Alzheimer's Disease*, 2025.
- 2025 Bettina Barisch-Fritz, [Jay Shah](#), et al. Physical activity and the outcome of cognitive trajectory: a machine learning approach. *European Review of Aging and Physical Activity*, 2025.
- 2024 [Jay Shah](#), Yiming Che, et al. Enhancing amyloid pet quantification: Mri-guided super-resolution using latent diffusion models. *Life*, 2024.
- 2024 Maitry Trivedi, Amogh Joshi, [Jay Shah](#), et al. Interpretable deep learning framework towards understanding molecular changes associated with neuropathology in human brains with ad. *npj Aging*, 2024.
- 2023 [Jay Shah](#), MMR Siddiquee, et al. Neuropsychiatric symptoms and commonly used biomarkers of ad: A literature review from a machine learning perspective. *Journal of Alzheimer's Disease*, 2023.
- 2023 MMR Siddiquee, [Jay Shah](#), Catherine Chong, 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

- 2025 Fazle Rafsani, Devam Sheth, Yiming Che, [Jay Shah](#), et al., Using Large-scale Contrastive Language-Image Pre-training to Maximize MRI-based Headache Classification, *Brain Communications*, 2025.
- 2025 Amogh Joshi, Yiming Che, [Jay Shah](#), et al., Enhanced Traumatic Brain Injury Recovery Classification with Harmonized Brain MRI and CT, *Brain Communications*, 2025.

## Selected Conference Abstracts

- 2025 Fazle Rafsani et al. Using large-scale contrastive language-image pre-training to maximize brain mri-based headache classification. In *AAN Annual Meeting*, 2025.
- 2024 (**Oral presentation**) [Jay Shah](#), MMR Siddiquee, et al. Capturing mri signatures of brain age as a potential biomarker to predict persistence of pth. In *AAN & NIH HEAL Annual Meeting*, 2024.
- 2024 MMR Siddiquee, [Jay Shah](#), et al. Applying gan on structural brain mri for unsupervised classification of headache. In *AAN & NIH HEAL Annual Meeting*, 2024.
- 2024 Amogh Joshi, MMR Siddiquee, et al. Prediction of headache improvement using multimodal machine learning in patients with acute pth. In *AAN & NIH HEAL Annual Meeting*, 2024.
- 2023 [Jay Shah](#), Ji Luo, 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.
- 2022 [Jay Shah](#), Valentina Ghisays, et al. Mri signatures of brain age in the alzheimer's disease continuum. *Alzheimer's & Dementia*, 2022.

## Patents

- 2024 (filed) User-guided context-aware music recommendations, 08/05/2024, [Jay Shah](#), Shanti Stewart, Gauri Jagatap, Gouthaman KV, Andrea Fanelli.
- 2022 (US20240285244A1, WO2023101959A1) Deep Residual Inception Encoder-Decoder Network for Amyloid PET Harmonization, 12/01/2022, Fei Gao, Yi Su, [Jay Shah](#), Teresa Wu.

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## Skills

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| Programming         | Python, C/C++, Java, Matlab, SQL, Shell Scripting   |
| ML                  | 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, Fund. of Statistical Learning, Data Mining, Software Design, Cloud Computing, Distributed Database Systems |

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## Invited Talks and Highlights

- Dec'24 AI for Early Detection of Alzheimer's Disease, [🔗AI Club](#), [DAICT](#).
- Apr'24 AI-powered medicine, [🔗ASU News](#).
- 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](#).
- 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 Learning based 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 DAICT to ASU and working with Nobel Laureate Frank Wilczek, [🔗DAICT 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](#).

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## Services and Awards

- **Journal Reviewer:** ACM TIST, Alz. & Dementia, Frontiers In Aging Neuroscience, Journal of Alz. Dis.
- **Conference Reviewer:** CVPR'25, MICCAI'23-24, MIDL'24-25, AAIC'22-25, ICLR'24-25, ICHI'24
- **Organizing:** INFORMS'23 (Session Chair)
- Graduate Research Assistantship, ASU (May'20 - Present)
- National Institute of Health (NIH) Travel Award, ASU (Dec'23)
- Travel Grant, Alzheimer's Association International Conference (2021)
- [🔗IEEE Impact Creator Award](#)
- Travel Grant, IEEE-IAS Annual Meeting Ex-Com (2017, '18, '19)

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## Leadership Activities

- AI Podcast Host (*6,000+ 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 DAICT (Jan'17 - Dec'17)