

# Ayaan Haque

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## EDUCATION

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### UC Berkeley College of Engineering

Berkeley, CA

*B.S. in Electrical Engineering and Computer Sciences (EECS)*

*Expected May 2025*

- Relevant Awards/Organizations: MLH Top-50 Hacker, 33x Hackathon Winner, Machine Learning @ Berkeley

## EXPERIENCE

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### Samsung SDSA || AI Research Intern

June 2022 – September 2022

*Artificial Intelligence Research Team*

*San Jose, California*

- Proposed “SSL-MeshCNN”, a novel self-supervised algorithm for segmenting non-uniform, irregular 3D meshes
- Designed new SimCLR-inspired stochastic augmentation policy for mesh-specialized contrastive learning
- Matched accuracy of fully-supervised training (90.50%) with just 67% of labels, reducing labeling costs by 33%

### Stanford University || AI Research Intern

July 2020 – June 2022

*Wang Group (Radiological Sciences Laboratory)*

*Stanford, California*

- Lead 4 research projects mentored by Professor Adam Wang, wrote 5 papers in professional, top-10 ranked venues, published/presented work at international conferences/journals
- Addressed “limited-labeled data” challenge in AI-based medical imaging by leveraging self-supervised, semi-supervised, and multi-task learning
- Built multi-tasking segmentation and classification models, self-supervised image denoisers, and image-quality assessment algorithms, each method outperforming their respective state-of-the-art

### Openwater Accelerator || Software Engineering Intern

August 2020 – December 2020

*Internal SWE Team*

*Menlo Park, CA*

- Developed Waitlist API for portfolio companies in accelerator cohort, allows companies to establish waitlists for their products and build market
- Used React.js, MongoDB, Flask and other web dev/backend tech, integrated Stripe API for user payments, implemented referral features, communicated with companies for feedback

## SELECTED PUBLICATIONS (4 OUT OF 11)

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**A. Haque**, H. Moon, H. Hao, S. Didari, J. Woo, P. Bangert. “Self-Supervised Contrastive Representation Learning for 3D Mesh Segmentation,” AAAI Conference on Artificial Intelligence (AAAI), 2023.

**A. Haque**. “EC-GAN: Low-Sample Classification using Semi-Supervised Algorithms and GANs,” AAAI Conference on Artificial Intelligence (AAAI), 2021. (*Best Student Abstract Finalist*)

**A. Haque**, A. Wang, A.A.Z. Imran. “Window Level is a Strong Denoising Surrogate,” MICCAI Machine Learning in Medical Imaging (MLMI), 2021.

**A. Haque**, A.A.Z. Imran, A. Wang, D. Terzopoulos. “MultiMix: Sparingly Supervised, Extreme Multitask Learning From Medical Images,” IEEE International Symposium on Biomedical Imaging (ISBI), 2021.

## PROJECTS

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### SuiSense

June 2020 – September 2020

- Built NLP powered web app using React/Flask to classify suicidal/depressive sentiment in messages/texts
- Implemented BERT, LSTMs, and CNNs to achieve 93.08% sentiment analysis accuracy, utilized unsupervised learning to refine web-scraped labels improving performance by 13%

### Tickbird

September 2019 – April 2020

- Developed IOS app using Swift enabling visually impaired patients to aurally understand prescriptions
- Built OCR recognition pipeline with TesseractOCR/Firebase, published on App Store, received 250+ downloads

## TECHNICAL SKILLS

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**Skills:** Artificial Intelligence/Machine Learning/Deep Learning, Computer Vision, Natural Language Processing, Data Science, App/Web Dev, Frontend/Backend/Fullstack

**Languages:** Proficient: Python, Java, Swift, HTML. Familiar: CSS, Javascript, R

**Frameworks/Tools:** PyTorch, Tensorflow, Keras, Sklearn, NumPy, Pandas, NVIDIA GPUs, LaTeX, Scipy, OpenCV, RStudio, Firebase, MongoDB, Flask, React, Jupyter, Git, XCode, Ruby