

Shreshth Saxena

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Education

Department of Psychology, Neuroscience & Behaviour, McMaster University Department of Music, Max Planck Institute for Empirical Aesthetics

Hamilton, CA

Frankfurt, DE

PHD STUDENT, JOINT AFFILIATION

Mar. 2021 - Present

- Researching audio-visual saliency and attention during music listening ([Project page](#))
- Applying remote and portable methods of eye tracking for large scale in-the-wild studies ([OSF Repository](#))

Faculty of Mathematical Sciences, University of Delhi

New Delhi, IN

M.SC. IN COMPUTER SCIENCE (1ST DIVISION)

2017-19

- Thesis Project: Predicting global stock market indices using Recurrent Neural Network architectures ([Github](#))
- Auxiliary Research Project: Lung cancer detection from CT scan data using Convolutional Neural Networks ([Github](#))
- Senior Editor and Designer for department's annual technical magazine ([webpage](#))

Acharya Narendra Dev College, University of Delhi

New Delhi, IN

B.SC. HONORS IN COMPUTER SCIENCE (1ST DIVISION)

2014-17

- Undergraduate Innovation Project: Online e-Commerce marketing portal for small-scale entrepreneurs
- Co-convener of the Music and Dance Society in college
- Member and facilitator with the [Free and Open Source Software club](#)

Work Experience

Computer Vision Researcher

Remote

FITIVITY INC.

Oct. 2019 - Feb. 2021

- Computer Vision lead for [Basketball](#) and Golf sports-training apps aimed at creating a novel interactive training experience and providing real-time feedback based on player-ball dynamics
- Worked on object detection and tracking, pose estimation, action recognition, edge computing and monocular depth estimation
- Developed over 30 interactive game drills with corresponding scoring metrics and market research models to analyse user engagement
- Collaborated with developers for effective integration of deep learning models to existing software and supervised Data Science interns

Data Science Intern

New Delhi, IN

INSPEKT LABS (FORMERLY CVISION.AI)

Jul. 2019 - Sep. 2019

- Applied Computer Vision to tackle real world challenges related to damaged automobile assessment ([interview task](#))
- Developed automated quality check measures to optimize the data annotation outsourcing pipeline resulting in a **5x** labelling capacity increase and enhanced quality of output.

Computer Science Expert (Intern)

New Delhi, IN

EVELYN LEARNING

Dec. 2016 - Mar. 2017

- Computer Science and Mathematics mentor for high school and senior students

Publications

Saxena, S., Fink, L., and Lange, E. B. (2022, Submitted). Deep learning models for webcam eye-tracking in online experiments. *OSF Preprints*. <https://doi.org/10.31219/osf.io/42qej>.

Saxena, S., Lange, E. B., and Fink, L. (2022). Towards efficient calibration for webcam eye-tracking in online experiments. In *Proceedings ETRA 2022: ACM Symposium on Eye Tracking Research and Applications* (pp. 1-7). doi:10.1145/3517031.3529645.

Programming Skills

Languages Python, C/C++, Swift, SQL, HTML/CSS, Javascript, LaTeX

Libraries PyTorch, TensorFlow, Keras, Pandas, Numpy, OpenCV, Turicreate, CoreML, Matplotlib, Seaborn, NLTK, Scikit-learn, Librosa, FFmpeg, Beautiful Soup, Selenium, Scrapy, Boto3, PyTest, UnitTest, Python Debugger

Service & Extracurricular Participation

- Graduate student committee chair - [McMaster Institute for Music & the Mind \(MIMM\)](#)
- **Conferences** : Virtualisation chair - [ACM Eye Tracking Research & Applications \(ETRA\) 2022](#), and [Music & Eye-Tracking \(MusicET\) 2022](#); tech manager - [Neuromusic 2022](#); tech volunteer - [International Society for Music Information Retrieval \(ISMIR\) 2021](#)
- Selected to attend and present at the [4th Summer School on Internet-based Data Collection and Analysis](#), Konstanz, Germany.
- National rank in [S.O.F. Olympiads](#) and 97 percentile score in [MENSA IQ Test](#)
- Certified guitar trainer with [Furtados School of Music](#)