

Yash MEHTA

PhD student | Computational Cognitive Science

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EDUCATION


- Sep'23 - Present **Johns Hopkins University, USA**
Natural and artificial intelligence, PhD
‣ Rotations. Deep neural network models of human vision. Cognition, robotics and reasoning.
- Jan'18 - Jul'18 **Nanyang Technological University (NTU), Singapore**
Applied Deep Learning, Undergraduate research thesis
‣ Worked on automated personality prediction from written essays using pre-trained Large Language Models (LLMs), for e.g. BERT, RoBERTa.
- Aug'14 - Jul'18 **Birla Institute of Technology and Science (BITS Pilani), India**
Computer Science, Bachelor of Engineering (Honors)
‣ *Relevant Coursework* : Parallel Computing, Theory of Computation, Information Retrieval, Data Structures and Algorithms, Advanced Algorithms.
‣ Varsity squash team captain and Varsity badminton team vice-captain.














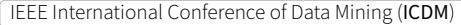



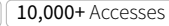

RESEARCH EXPERIENCE

- January 2024
October 2023 **Harvard Medical School, USA, Rotation PhD student**
LAB : [Generalist Medical AI Lab](#)
SUPERVISOR : [Pranav Rajpurkar](#)
‣ Neuroradiology : Building knowledge graphs for radiology headCT free text reports from MIMIC for comprehensive radiology report generation.
‣ Combining LLMs, Retrieval Augmented Generation, knowledge graphs and vector databases.
[Langchain](#) [Knowledge Graphs](#) [LLMs](#)
- Sept 2023
January 2022 **HHMI Janelia Research Campus, USA, Research Engineer 2**
LAB : [Computation and Theory Group](#)
SUPERVISORS : [Jan Funke](#), [James Fitzgerald](#)
‣ Working on meta-learning synaptic plasticity rules in a connectome-constraint artificial neural network in collaboration with [Larry Abbott's](#) lab at the Zuckerman Institute, Columbia.
‣ Working closely with experimental labs to fit our model to actual fly data.
[JAX](#) [Meta-learning](#) [Neural Networks](#)
- December 2021
September 2020 **University of Freiburg, GERMANY, Research Engineer**
LAB : [AutoML Machine Learning Lab](#)
SUPERVISOR : [Frank Hutter](#)
‣ Worked on developing and benchmarking efficient algorithms for evolving optimal neural network architectures for various computer vision tasks.
‣ Lead developer of open-source library, *NASLib* for fundamental neural architecture search research.
[PyTorch](#) [Neural Architecture Search](#) [Transformers](#)
- July 2020
January 2019 **Gatsby Unit & Google DeepMind, UK, Intern**
LAB : [Gatsby Computational Neuroscience Unit](#)
SUPERVISORS : [Peter Latham](#), [Tim Lillicrap](#) (GDM)
‣ *Main Project* : worked on perturbation-based learning rules as candidates for credit assignment in the brain, by investigating their performance on artificial neural networks.
‣ *Side Project* : Worked on improving the performance of biologically-plausible convolutional networks with a combination of backprop and local Hebbian plasticity.
[JAX](#) [Bio-plausible Learning](#) [Neural Networks](#)




PUBLICATIONS

Citations : 775+ (Dec 2024)

Erdos Number :  3

- EXPLORING UNTRAINED NEURAL NETWORK ARCHITECTURES FOR MODELING HIGHER VISUAL CORTEX REPRESENTATIONS** 2024
Yash Mehta, Atlas Kazemian, Colin Conwell, Mick Bonner
  [GitHub](#)
- MODEL-BASED INFERENCE OF SYNAPTIC PLASTICITY RULES** 2024
Yash Mehta, Danil Tyulmankov, Adithya Rajgopalan, Glenn Turner, James Fitzgerald, Jan Funke
  [Paper](#)
- NAS-BENCH-SUITE : NAS EVALUATION IS (NOW) SURPRISINGLY EASY** 2022
Yash Mehta*, Colin White*, Arber Zela, Arjun Krishnakumar, Guri Zabergja, Shakiba Moradian, Mahmoud Safari, Frank Hutter
  [Paper](#)
- STABILITY AND SCALING OF NODE PERTURBATION LEARNING** 2022
Naoki Hiratani, Yash Mehta, Timothy Lillicrap, Peter Latham
  [Paper](#)
- TOWARDS BIOLOGICALLY PLAUSIBLE CONVOLUTIONAL NETWORKS** 2021
Roman Pogodin, Yash Mehta, Timothy Lillicrap, Peter Latham
  [Paper](#)
- MULTI-TASK LEARNING FOR EMOTION AND PERSONALITY DETECTION** 2021
Yang Li, Amir Kazameini, Yash Mehta, Erik Cambria
   [Paper](#)
- UP AND DOWN : MODELLING PERSONALITY WITH PSYCHOLINGUISTIC FEATURES AND LANGUAGE MODELS** 2020
Yash Mehta*, Samin Fatehi*, Amir Kazameini, Clemens Stachl, Erik Cambria
  [Paper](#)
- RECENT TRENDS IN DEEP LEARNING-BASED PERSONALITY DETECTION** 2020
Yash Mehta, Navonil Majumder, Alexander Gelbukh, Erik Cambria
    [Paper](#)

INDUSTRY EXPERIENCE

- December 2018** | **Amazon, INDIA, Software Development Engineer**
July 2018
- > Worked as a full-time software developer as part of the Amazon Prime Music team using the AWS technology stack.
 - > Won **second prize** in the Global Amazon ML Hackathon, leading a team of 6 software developers. Created a prototype for automated emotion detection from songs using LSTMs.
 - > Quit job to pursue academic research.
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EDITORIAL BOARD MEMBERSHIPS

MANAGING GUEST EDITOR - SPECIAL ISSUE 2022

 [Future-Generation Personality Prediction from Digital Footprints](#)

Organized a successful special issue in the Elsevier international journal, Future Generation Computing Systems (FGCS) on automated personality prediction with Deep Learning. The other guest editors in the team were **Prof Bjorn Schuller** (Imperial College), **Prof Clemens Stachl** (Uni St.Gallen), **Prof Joeseoph T Yun** (UIUC) and **Prof Konstantin Markov** (Uni Aizu).

TEACHING ASSISTANT

- > **Information coding in neural activity** (Fall'24), JHU
- > **Deep Learning & Lab** (WS'21, SS'21), Freiburg
- > **Advanced Algorithms** (SS'17), BITS
- > **Data Structures & Algo** (WS'17), BITS

INTERESTS

- > **Teaching** : Took intro ML classes @local high school
- > **Videography** : Created "ResearchBridge" video interview series
- > **Solo travel** : Backpacked the Himalayas, Europe and Eastern Australia
- > **Running** : Half marathon personal best : 1h 46m

“ REFERENCES

Pranav Rajpurkar

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Jan Funke

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