

Yash MEHTA

Research Fellow | Department of Biomedical Informatics

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📍 10 Shattuck Street, Boston, USA

📅 Born : Dec 1995 (27 years), India








HARVARD
MEDICAL SCHOOL

RESEARCH EXPERIENCE

Present October 2023	DBMI, Harvard Medical School, USA, Research Fellow SUPERVISOR : Pranav Rajpurkar <ul style="list-style-type: none">➤ 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. <div>Langchain Knowledge Graphs LLMs</div>
Sept 2023 January 2022	HHMI Janelia Research Campus, USA, Research Engineer 2 SUPERVISOR : Jan Funke , James Fitzgerald <ul style="list-style-type: none">➤ 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. <div>JAX Meta-learning Neural Networks</div>
December 2021 September 2020	AutoML Lab Freiburg, GERMANY, Research Engineer SUPERVISOR : Frank Hutter <ul style="list-style-type: none">➤ Worked on developing and benchmarking efficient algorithms for evolving optimal neural network architectures for various computer vision tasks.➤ Lead developer of open-source library, <i>NASLib</i> for fundamental neural architecture search research. <div>PyTorch Neural Architecture Search Transformers</div>
July 2020 January 2019	Gatsby Computational Neuroscience Unit, UK, Research Intern SUPERVISORS : Peter Latham , Tim Lillicrap (Google DeepMind) <ul style="list-style-type: none">➤ <i>Main Project</i> : worked on perturbation-based learning rules as candidates for credit assignment in the brain, by investigating their performance on artificial neural networks.➤ <i>Side Project</i> : Worked on improving the performance of biologically-plausible convolutional networks with a combination of backprop and local Hebbian plasticity. <div>JAX Bio-plausible Learning Neural Networks</div>

PUBLICATIONS

Erdos Number :  3

MODEL-BASED INFERENCE OF SYNAPTIC PLASTICITY RULES FROM NEURAL ACTIVITY Yash Mehta , Danil Tyulmankov, Yoshi Aso, Glenn Turner, James Fitzgerald, Jan Funke <div>under review (ICLR)</div>	2023
AN EMPIRICAL INVESTIGATION OF PERTURBATION-BASED METHODS TO TRAIN DEEP NEURAL NETWORKS Yash Mehta , Naoki Hiratani, Peter Humphreys, Peter Latham, Timothy Lillicrap <div>Under review  GitHub</div>	2023
NAS-BENCH-SUITE : NAS EVALUATION IS (NOW) SURPRISINGLY EASY Yash Mehta [*] , Colin White [*] , Arber Zela, Arjun Krishnakumar, Guri Zabergja, Shakiba Moradian, Mahmoud Safari, Frank Hutter <div>International Conference on Learning Representations (ICLR)  Paper</div>	2022
STABILITY AND SCALING OF NODE PERTURBATION LEARNING Naoki Hiratani, Yash Mehta , Timothy Lillicrap, Peter Latham <div>Neural Information Processing Systems (NeurIPS)  Paper</div>	2022
TOWARDS BIOLOGICALLY PLAUSIBLE CONVOLUTIONAL NETWORKS Roman Pogodin, Yash Mehta , Timothy Lillicrap, Peter Latham <div>Neural Information Processing Systems (NeurIPS)  Paper</div>	2021

MULTI-TASK LEARNING FOR EMOTION AND PERSONALITY DETECTION

2021

Yang Li, Amir Kazameini, Yash Mehta, Erik Cambria

Neurocomputing Impact Factor : 5.72 [Paper](#)

UP AND DOWN : MODELLING PERSONALITY WITH PSYCHOLINGUISTIC FEATURES AND LANGUAGE MODELS

2020

Yash Mehta^{*}, Samin Fatehi^{*}, Amir Kazameini, Clemens Stachl, Erik Cambria

IEEE International Conference of Data Mining (ICDM) [Paper](#)

RECENT TRENDS IN DEEP LEARNING-BASED PERSONALITY DETECTION

2020

Yash Mehta, Navonil Majumder, Alexander Gelbukh, Erik Cambria

AI Review Journal Impact Factor : 12.0 8,500+ Accesses [Paper](#)

EDUCATION

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.

Jan'18 - Jul'18 Nanyang Technology 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.
- Wrote a literature survey on methods for personality prediction using Deep Learning.
- Completed the Deep Learning Coursera online specialization by Andrew Ng.

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.

AWS Data Pipelines Software Development

PAST EDITORIAL BOARD MEMBERSHIP

MANAGING GUEST EDITOR - SPECIAL ISSUE

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

#2 in Computing Systems CiteScore : 21.1 Impact Factor : 7.5

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 Joeseeph T Yun** (UIUC) and **Prof Konstantin Markov** (Uni Aizu).

TEACHING ASSISTANT

- **Deep Learning** (WS'21), MSc.Course, Freiburg
- **Deep Learning Lab** (SS'21), MSc.Course, Freiburg
- **Intro to NLP** (SS'18), BSc.Course, NTU Singapore
- **Advanced Algorithms** (SS'17), Bsc.Course, BITS
- **Data Structures & Algo** (WS'17), Bsc.Course, 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

Asst. Professor, HARVARD

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James Fitzgerald

Group Leader, JANELIA

@ james@janelia.hhmi.org

Peter Latham

Professor, GATSBY, UCL

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Frank Hutter

Professor, UNIVERSITÄT FREIBURG

@ frank@uni-freiburg.de

Timothy Lillicrap

Sr. Staff Research Scientist, DEEPMIND

@ tim.lily@google.com

Erik Cambria

Assoc. Professor, NTU SINGAPORE

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