

Yash MEHTA

Research Engineer 2 | HHMI Janelia Research Campus

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📍 19700 Helix Dr, Ashburn, USA
📅 Born : Dec 1995 (27 years), India







I'm an incoming PhD student at Johns Hopkins, where I will be working on **multimodal foundation models**, with applications in healthcare. Throughout my academic journey, I have gained valuable experience in various domains, including **transformers**, **LLMs**, **neuroscience**, and **cognition**. I consider myself fortunate to have collaborated with dedicated scientists at esteemed institutions such as HHMI Janelia, Freiburg, Gatsby/DeepMind, and NTU Singapore. Prior to embarking on my research path, I worked as a software developer at Amazon. I thoroughly enjoy coding, engineering and working on hard algorithmic problems.

RESEARCH EXPERIENCE

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|---------------------------------|---|
| Present January 2022 | HHMI Janelia Research Campus, USA, Research Engineer 2 SUPERVISORS : 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.Working closely with experimental labs to fit our model to actual fly neuronal recording data. <div>JAXMeta-learningNeural 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>PyTorchNeural Architecture SearchNeural Networks</div> |
| June 2020 January 2019 | DeepMind / Gatsby Computational Neuroscience Unit, UK, Research Technician SUPERVISORS : Tim Lillicrap , Peter Latham <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>JAXBio-plausible LearningNeural Networks</div> |

PUBLICATIONS

Erdos Number :  3

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| MODEL-BASED INFERENCE OF SYNAPTIC PLASTICITY RULES FROM NEURAL ACTIVITY Yash Mehta , Danil Tyulmankov, Yoshi Aso, Glenn Turner, James Fitzgerald, Jan Funke <div>In Preparation</div> | 2023 |
| AN EMERICAL INVESTIGATION OF PERTURBATION-BASED METHODS TO TRAIN DEEP NEURAL NETWORKS Yash Mehta , Naoki Hiratani, Peter Humphreys, Peter Latham, Timothy Lillicrap <div>In Preparation  GitHub</div> | 2023 |
| STABILITY AND SCALING OF NODE PERTURBATION LEARNING Naoki Hiratani, Yash Mehta, Timothy Lillicrap, Peter Latham <div>Neural Information Processing Systems (NeurIPS)  Paper</div> | 2022 |
| 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 |
| 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

2019

Yash Mehta, Navonil Majumder, Alexander Gelbukh, Erik Cambria

Artificial Intelligence Review Impact Factor : 9.58 7,500+ 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](#)

FGCS Elsevier International Journal Impact Factor : 7.31

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

Peter Latham

Professor, GATSBY, UCL

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Frank Hutter

Professor, UNIVERSITÄT FREIBURG

@ frank@uni-freiburg.de

Timothy Lillicrap

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Erik Cambria

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