

KEERAT KAUR GULIANI

Pre-Final Year Undergraduate — Indian Institute of Technology Roorkee

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EDUCATION

Indian Institute of Technology, Roorkee

July 2018 - Present

Bachelor of Engineering, Civil(Major), Computer Science(Minor)

Cumulative Grade Point Average-9.65/10 (Departmental Rank: 2/151)

The Mother's International School, New Delhi

2014 - 2018

Percentage in Class 12- 98%

CGPA in Class 10- 10/10

CAREER OBJECTIVE

I am working towards a career in Machine Intelligence & its Applications in diverse fields. Eager to learn new state-of-the-art technologies. My interests include:

Deep Learning — Data Science — Causality & Reinforcement Learning — Application of computational methods in Healthcare & Policy-Making — Computer Vision — Civil Engineering.

Self-motivated and Quality-oriented, I focus on research with impact.

PAPERS

- ***VacSIM: Learning Effective Strategies for COVID-19 Vaccine Distribution using Reinforcement Learning*** [Preprint][Dashboard]

A: Raghav Awasthi, Keerat Kaur Guliani, Arshita Bhatt, Mehrab Singh Gill, Aditya Nagori, Ponnurangam Kumaraguru, Tavpritesh Sethi

Submitted to *AAAI 2020*. Presented at the *RAISE Summit 2020 & MIT's Vaccines For All Conference*.

- ***Less Wrong COVID-19 Projections With Interactive Assumptions*** [Preprint]

A: Aditya Nagori, Raghav Awasthi, Vineet Joshi, Suryatej Reddy Vyalla, Akhil Jarodia, Chandan Gupta, Amogh Gulati, Harsh Bandhey, Keerat Kaur Guliani, Mehrab Singh Gill, Ponnurangam Kumaraguru, Tavpritesh Sethi

Submitted to the *Bulletin of the World Health Organisation*.

- ***DEAP Cache: Deep Eviction Admission and Prefetching for Cache*** [Preprint]

A: Ayush Mangal, Jitesh Jain, Keerat Kaur Guliani, Omkar Bhalerao

Submitted to *AAAI 2021* as a Student Abstract.

- ***Universal Adversarial Perturbations - A Survey*** [Preprint]

A: Ashutosh Chaubey, Nikhil Agrawal, Kavya Barnwal, Keerat K. Guliani, Pramod Mehta

Submitted to *ACM CSUR*.

INTERNSHIPS

- **Synaptic Connectivity Detection** [Intern Diary]

June 2020-Present

Lichtman Lab, Harvard University

Performed Synaptic Location & Connectivity Detection to get Synaptic Segmentation in the mouse cerebellum to aid Developmental Connectomics research.

- **CoronaActionIndia**

Summer 2020

MEDAIM, IIIT Delhi

Developed an OpenAI gym environment from scratch as a basis for a novel RL pipeline to ensure fair distribution of Vaccines developed against Corona virus.

- **Classification of EEG Signals** **Summer 2019**
CBTB Lab, IIT Roorkee
 Developed machine-learning architectures to classify the EEG Signals into Focal or Non-focal epileptic type, that would increase efficiency & accuracy of epileptic diagnosis.

PROJECTS

- **Synthetic Data Generation [Slides][Code]** **March 2021**
Volunteer at Data Dive, DataKind
 Worked in collaboration with Medic Mobile and Dimagi, to use ML & AI tools to generate, assess synthetic patient data and provide recommendations for its development & use so that partners can create health tools that work for everyone.

EXPERIENCES

- **Attendee, Women in Data Science(WiDS) Conference** **March 2021**
- **Finalist, Goldman Sachs Women's Possibilities Summit: Finance** **Feb 2021**
 Selected based on submission of technological problem statement and solution design.
- **Attendee, NeurIPS Conference [Certificate]** **Dec 2020**
- **Participant, Data Science for Social Good Workshop [Lightning Slide]** **Nov 2020**
Georgia Institute of Technology, USA (Virtual)
- **Team Leader, Global Adobe Analytics Challenge** **Oct 2020**
 Successfully completed and made recommendations for improving the Nike experience based on a comprehensive analysis of their data using the Adobe Analytics workspace, amongst 1600 teams from across the world.
- **Delegate, Winter Workshop on Machine Intelligence & Brain Research** **Jan 2020**
IIT Madras, India

TECHNICAL STRENGTHS

Programming Languages	Python, C++, R
Operating Systems	Windows, Linux
Tools	MS Office, Google Colab, Jupyter Notebook, Visual Studio Code, STAAD Pro, GIS, VAST, Streamlit
Relevant Courses Taken	Machine Learning, Probability & Statistics, Linear Algebra, Computer Vision, Numerical Methods & Computing, Electrical Engineering, Economics, Quantum Computing, Data Structures, Operating Systems, Systems Analysis, Data Mining for Business Intelligence
Familiar with	Tensorflow, Pytorch

ACADEMIC ACHIEVEMENTS

- Awarded the Jagdish Prasad Shail Goyal Excellence IITR Heritage Foundation Award & Scholarship(March 2021).
- Awarded the ENCORE Scholarship for 2020-21 by IITR'89 Batch amongst top 10 students in Third Year B.Tech based on merit(Jan 2021).
- Awarded the Summer Research Fellowship for 2020 by the Indian Academy of Sciences.
- All-India Rank 7964, Joint Entrance Examination(Advanced) 2018 among 1,50,000 students.
- All-India Rank 7130, Joint Entrance Examination(Mains) 2018 among 12,00,000 students.

- All-India Rank 14558 and Category Rank(UR) 8891, National Eligibility cum Entrance Test (Medicine) 2018, among 13,26,000 students.
- National Talent Search Examination Scholar (2016).

EXTRA-CURRICULAR

- **Core Member, Vision & Language Group, IITR [Website Link]:**
Student group that fosters Deep Learning research culture in the campus by discussing relevant research papers and working on related projects.
- **Joint Secretary, The Debating Society, IITR:**
My recent achievements in Parliamentary Debating include: Fifth best adjudicator, MukMem ProAm Debate, 2020 and Third best adjudicator, Overall Third at Inter-IIT Cultural Meet, 2019
- **Editor, Watch Out![Website Link]:** Watch Out! Is the official campus media body of IITR.