Rakesh Bal

Education

2021 - Present	**University of California, Los Angeles** Master of Science in *Computer Science*.
2016–2020	**Indian Institute of Technology Kharagpur** **GPA 9.04/10** Bachelor of Technology (Hons.) in *Computer Science and Engineering*.

Work Experience and Internships

Sep'21 - Present **University of California,** Los Angeles.
Teaching Assistant
- Leading discussion sessions for 100 undergrad students for the course Chem 20A: Chemical Structure.

Aug'20 - Sep'21 **Goldman Sachs,** Bangalore.
Analyst in Engineering Division
- Integrated two internal bug and issue tracking software as a part of a full-stack development project.
- Implemented UI features using Angular and Redux, made the codebase more robust by writing tests.
- Coordinated with end-users for the entire SDLC cycle; deployed the project to production used by 8000 users.

May'19 - Aug'19 **Accenture Technology Labs,** Bangalore.
Research Intern
- Worked on stock price prediction using news articles and incorporated knowledge graph as domain knowledge
- Used GCNs with events for real-world stock scenarios leading to performance improvement of 5% from baseline.

Publications

May'20 **Analysing the Extent of Misinformation in Cancer Related Tweets**   **[Link]**.
- Authored by **Rakesh Bal***, Sayan Sinha*, Swastika Dutta, Rishabh Joshi, Sayan Ghosh, Ritam Dutt
- *14th International AAAI Conference on Web and Social Media (ICWSM 2020)* - (Atlanta, USA)

May'21 **Two-Sided Fairness in Non-Personalised Recommendations**   **[Link]**.
- Authored by Aadi Swadiptio Mondal*, **Rakesh Bal***, Sayan Sinha*, Gourab K. Patro
- Accepted in *AAAI-21 Student Abstract and Poster Program* - (Vancouver, Canada)   * - equal contribution

Relevant Projects

Adversarial Attacks
- Worked on evading stateful defence through adversarial attacks like Fast Gradient Sign, Amortized Attacks
- Implemented stateful defence and the attacks on MNIST and EMBER which is a malware detection datatset

Fair GANs
- Investigated on methods to overcome dataset bias towards gender by balancing the images of the 2 classes
- Used GANs (Cycle-GAN) for unsupervised domain translation in order to achieve dataset balancing

Skills

Languages   Python, C, C++, Java, JavaScript, TypeScript, Matlab, Lisp
Libraries   PyTorch, Keras, TensorFlow, Pandas, Angular, React, Node.js, Spring, MongoDB, OpenCV, ROS

Relevant Courses

Computer Sc.   Algorithms, Software Engineering, Switching Circuits & Logic Design, Computer Organisation & Architecture, Compilers, Operating Systems, Computer Networks, Theory of Computation

Maths and AI   Probability & Statistics, Linear Algebra, Machine Learning, Image Processing, Reinforcement Learning, Deep Learning, AI & Ethics, Natural Language Processing, ML Algorithms*   * - ongoing

Awards and Achievements

Aug'18   Awarded B-Certificate in drill and weapon training in National Cadet Corps (NCC)
Feb'16   Secured All India Rank 191 in KVPY SX Stream organised by IISc, Bangalore
June'16   Secured All India Rank 265 (amongst 200,000 candidates) in IIT-JEE Advanced 2016
May'15   Recipient of National Talent Search Examination (NTSE) Scholarship

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