

# Pratik Aher

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## EDUCATION

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- **UNIVERSITY OF CALIFORNIA, BERKELEY** Berkeley, CA  
*Master of Information Management and Systems* *August 2021 - May 2023*  
Courses: Natural Language Processing, Reinforcement Learning, Applied Machine Learning, Quantitative Research Methods
- **MUMBAI UNIVERSITY** Mumbai, India  
*Bachelor of Information Technology* *June 2014 - June 2018*

## EXPERIENCE

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- **AMAZON SCIENCE** Boston, MA  
*Applied Science Intern* *May 2022 - August 2022*
  - Worked on graph-based machine learning recommendation systems, using tools like pytorch, spark, that use contextual information (time of the day, day of the week, etc) to better anticipate future customer defects in Alexa.
  - Developed a recommendation model using modified version of Pinterest's PIXIE model which was **40 percent** more accurate than the current model for user entity(music, videos, etc) predictions.
- **TINGTUN AS** Lillesand, Norway  
*Software Engineer - Machine Learning* *January 2021 - August 2021*
  - Created a Natural Language Processing (NLP) based machine learning search tool using multilingual-BERT for searching FAQs about the application. Due to this effort, user engagement increased by **140 percent**.
  - Developed a feedback tool from concept to launch for the Norwegian Computing Center using Vue.js for frontend and Gitlab for backend to allow users to submit feedback for public sector websites.
- **JPMorgan Chase & Co** Mumbai, India  
*Software Engineer* *July 2018 - December 2020*
  - Built data pipelines in Java for processing and caching of millions transactions daily for investment banking firms in order to generate margin calls.
  - Developed APIs and infrastructure for log monitoring with Kibana dashboard, which reduced error search times by **50 percent**, thus improving team productivity.
  - Built an internal dashboard to manage process workflows using Django/Python for better workflow management.

## ACADEMIC PROJECTS

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- **GNNIE: GNN-Recommender-as-a-service (Winner : James R. Chen Award)** : Capstone project where we built a platform for using graph neural networks (GNN) that provide more diverse and personalized recommendations. The results showed more than 8x performance improvement over traditional baselines (May 2023)
- **Does Context Matter? : Incorporating personalized contextual information for correcting unseen defects** : Internship project at Amazon to identify contextual signals and incorporate those signals to improve customer recommendations on unseen requests which showed **43 percent** improvement over baseline. (Aug' 2022)
- **Deep reinforcement learning algorithms for unsupervised hyperspectral and selection** : Benchmarking performance of eight deep reinforcement learning agents (four architectures, two reward schemes) on five hyperspectral datasets (Nov '22)

## PATENTS & PUBLICATIONS

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- **Patent: A System and a method for need based access control framework for an emergency response system (2021)** : Innovation patent with the IP Australia
- **Paper: Automated aspect extraction and aspect oriented sentiment analysis on hotel review datasets (IEEE, 2018)** : Using NLP to extract get aspect based ratings for hotel reviews. Presented the research paper at conference proceeding of conference ICCUBEA-2018
- **Paper: Need based access control framework for an emergency response system. Turkish Journal (TURCOMAT, 2021)**: Research paper for using ML for access control
- **Paper: Incremental radius approach for classification (IEEE, 2017)** : Presented the research paper at the machine learning conference proceeding of ICAC3-2017

## SKILLS

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- **Languages:** Python, Java, JavaScript, SQL
- **Tools:** Pytorch, GCP, Kubernetes, Docker, Django, Node.js, AWS