Prabhjot Singh Rai

As an aspiring and enthusiastically hard-working software engineer, I'm interested in full-stack development, data engineering, and artificial intelligence. Aiming to play my part in creating futuristic robots as intelligent as humans. Played a key role in the success story of Flyhomes, Inc. during its multiple funding rounds (total funding of $160 million)

hello@prabhjotrai.com

+16128675789

linkedin.com/in/prabhjotrai

github.com/raiprabh

stackoverflow.com/users/5159284

WORK EXPERIENCE

Intern - Machine Learning
Seagate Technology

06/2020 – Present — *Bloomington, Minnesota*

Tech Stack: Python, NumPy, Scikit-learn, PyTorch, AWS, Gitlab

- Prediction of failure of 19 reader heads out of 281807 passes
- Used oversampling (using SMOTE) and under-sampling (using domain knowledge experts) to draw various metrics
- Used neural network and random forests to achieve 100% precision and recall for oversampling and 50% using undersampling
- Plotted pair plots, Q-Q plots and box plots for inference on 50 attributes

Contact: GuoGuang Wu – guoguang.wu@seagate.com

Lead Software Engineer
UrbanwoodKMS (University of Minnesota)

01/2020 – Present — *Minneapolis-St Paul, Minnesota*

Knowledge Management System for Department of Bioproducts and Biosystems at UMN

Tech Stack: Python, NumPy, Scikit-learn, Java, AWS, ReactJS

- Engineered and explored features for document representation followed by multi-class classification
- Integrated classification with existing scraping service
- Designed and developed dashboard for various data views

Contact: Omar Espinoza (Associate Professor) – oaespino@umn.edu

Principal Software Engineer (Full-Stack)
Flyhomes, Inc.

01/2017 – 08/2019 — *Noida, India / Seattle, USA*

Tech based real estate startup based in Seattle (www.flyhomes.com)

Tech Stack: ReactJS, React Native, Redux, Ruby, Scala, AWS, Python

- Engineered from ground-up Flyhomes.com's search serving 10,000 customers and CRM software for 100 employees
- Led a 7-membered development team to create iOS and Android apps within five weeks using React Native
- Improved the process turnaround time to draft offers on any house (from 45 to three minutes)
- Developed a Scala service to automate populating of real-estate required forms for submitting an offer on a property
- Migrated the entire company's documents saved in Dropbox to AWS S3 for integration in the CRM software

Contact: Tushar Garg (Cofounder & CEO) – tushar@flyhomes.com

Software Engineer (Analytics Practice R & D)
R Systems International

06/2015 – 01/2017 — *Noida, India*

Global technology and analytics services company (www.rsystems.com)

Tech Stack: AngularJS, NLTK, Spacy, Java, Python

- Awarded best performer of the team for developing parsers performing machine operations on natural language
- Engineered pipeline to extract embedded tables in PDFs
- Built subject-specific sentiment analysis on batches of data from Facebook, LinkedIn and Twitter using Spacy
- Worked on three layers of building an ETL tool from ground-up

Contact: Avirag Jain (EVP & CTO) – avirag.jain@rsystems.com

ACHIEVEMENTS

Reinforcement Learning In-Depth Analysis (12/2018)
Well-organised, detailed and interesting results for reinforcement learning project acknowledged by Teaching Assistant (extra credits for testing human performance)

Annual Performance Review at R Systems: 4.9/5 (06/2016)
Best performer in the Analytics Practice team, acknowledged by the Vice President

Heat Transfer Prototype Design First Position (04/2013)
Scored first position in heat transfer prototype design in a batch of 120 students at IIT

Golden Badge on StackOverflow (09/2015)
Earned a golden badge for "Famous Question" and submitted the most upvoted answer

Highest Score in thesis at IIT Roorkee (04/2015)
Led the team which calculated the optimum width of paper for carton boards using linear regression

SKILLS & TECHNOLOGIES

ReactJS | React Native | AngularJS | HTML5 | CSS | Python | Scala | Ruby | C++ | Java | R | ES6

Machine Learning Applications | Tensorflow | Ruby-on-Rails | PyTorch | Selenium | AWS | Git | CircleCI | Rails

Apache Spark | Apache Hadoop | Codalab | NLTK

PROJECTS

AI to accelerate COVID-19 Identification from Chest X-Rays (03/2020 – Present)

- Handled data preparation for the collaboration between University of Minnesota Healthcare Departments and Department of Computer Science
- Used COVID+, CheXpert, MIMIC and Kaggle (normal and pneumonia) datasets
- Trained Vanilla CNN with AUPRC 0.92

Real Time Processing of DotA2 data using NoSQL (11/2019)

- Setup FaunaDB (document database) cluster connecting 2 AWS EC2 instances
- Queried DotA2 servers in near-realtime, handled duplicates using cron jobs and devised injection and transformation processes using Google Cloud Pub/Sub
- Transformed and injected 20 records per second, maintaining HiFi and LoFi data, with an aim to answer 12 business questions on the data

Alzheimer's Disease Prediction, Stanford University (06/2019)

- Preprocessed to skull-strip and normalise 1724 subjects' scans (from three sources) using FMRIB followed by transfer learning on ResNet18 and ResNet50
- Achieved a validation error as low as 1 - 4 years and test error around 5 - 7 years

AI Agent for Lunar Lander, Stanford University (12/2018)

- Evaluated and compared performances of Full DQN, Double DQN, and Dueling network architectures in Tensorflow
- The team scored 2nd position on OpenAI gym leaderboard

Additional Projects

- Detection of fractures in X-Ray images (University of Minnesota)
- Implementation of Generative Adversarial Network (University of Minnesota)
- Handled web presence and applications for Sarvahitey, an NGO focused on community welfare (www.sarvahitey.org)
- Engineered a generic crawler in selenium to crawl any e-commerce website

Open Source Contributions / Forked

- React Slick, DevExtreme Reactive and Nuka Carousel

EDUCATIONAL QUALIFICATION

Master of Science in Computer Science
University of Minnesota - Twin Cities, MN
08/2019 – Present *GPA 4.0*

Graduate NDO in Artificial Intelligence
Stanford University, Stanford, CA
09/2018 – 06/2019 *GPA 3.65*

Bachelor of Technology
Indian Institute of Technology (IIT), Roorkee
06/2011 – 04/2015 *GPA 3.75*

INTERESTS

Full-Stack Development | Data Engineering | Data Science | Machine Learning | Swimming | Calisthenics | Theatre