Prabhjot Singh Rai

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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 "intellectual" as humans. Played a key role in the success story of Flyhomes, Inc. during its multiple funding rounds (total funding of $160 million).

WORK EXPERIENCE

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 the ground up, the Flyhomes.com's search engine serving around 10,000 customers and CRM software for 100 employees (using ReactJS/Rails/AWS)
- Led a seven-membered development team to create iOS and Android apps within five weeks using React Native
- Constructed pipeline to collect data (approx. 3 million MLS listings) using Scala from 5 listing providers across the US and devised architecture to update collected data every hour automatically through AWS lambda
- Automated several manual operations involved in buying a house: improved the process turnaround time to draft offers on any house (from 45 to three minutes) and the time taken to match customer preference to the best value property
- Custom-developed a recommendation system to recommend listings to prospective buyers based on their saved search
- 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

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 (convert unstructured information to structured form)
- 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: scraped data using selenium (both structured and unstructured) and built a transformation layer controlled through web application made in AngularJS
- Created a generic algorithm for gathering data from multiple sources without the need to specify any prior parameters

EDUCATIONAL QUALIFICATION

Master of Science in Computer Science
University of Minnesota - Twin Cities, MN

08/2019 – Present *Expected 2021*

Graduate NDO in Artificial Intelligence
Stanford University, Stanford, CA

09/2018 – 06/2019 *GPA 3.65*

B. Tech. in Pulp and Paper Engineering
Indian Institute of Technology (IIT), Roorkee

06/2011 – 04/2015 *GPA 3.75*

SKILLS & TECHNOLOGIES

ReactJS | React Native | AngularJS | HTML5 | CSS | Javascript (ES6) | Python | Scala | Ruby | Java | R | Tensorflow | PyTorch | Natural Language Processing | Selenium | Amazon Web Services (AWS) | CircleCI | Code Climate | Codalab | C/C++ | Natural Language Toolkit

PROJECTS

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)
- Detected Alzheimer's disease by predicting physiological brain age through Magnetic Resonance Imaging (MRI) scans using Convolutional Neural Networks
- 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)
- Solved Box2D lunar lander video game through Deep Reinforcement Learning
- Evaluated and compared performances of Full DQN, Double DQN, and Dueling network architectures in Tensorflow
- Scored 2nd position on OpenAI gym leaderboard

E-commerce website crawler (02/2017)
- Engineered a generic crawler in selenium to crawl any e-commerce website
- Extracted structured information from any URL without specifying any prior configuration

Additional Projects
- Handled web presence and applications for Sarvahitey, an NGO focused on community welfare through constructing libraries and providing education to the underprivileged in four states throughout India (www.sarvahitey.org)
- Worked as a consultant for Core Software Solutions, a US-based technology firm focused on designing and developing integrated IT solutions (coresoftsolutions.com) and for Hi Brow Bar Threading focused on designing and developing their website (https://www.hibrowthreading.com)
- Open Source Contributions: React Slick, DevExtreme Reactive and Nuka Carousel

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)

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

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

Highest Score in thesis at IIT Roorkee (04/2015)
Led the team which devised an optimisation algorithm for finding the optimum width of paper for carton boards

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