

# Harish Pal Chauhan

Brooklyn, NY

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## Education

### New York University

Master of Science in Computer Engineering

- **GPA: 3.74/4.00**
- Specialization in Machine and Deep Learning Algorithms

New York, USA

Sep 2021 - May 2023

### Chandigarh Engineering College

Bachelor of Technology in Mechanical Engineering

- Graduated with Distinction

Punjab, India

Aug 2008 - May 2012

## Skills

### Programming Languages

Python, C++, C, Java, JavaScript, React, MATLAB, SQL, CSS, HTML, COBOL, PLI, CUDA, Bash Scripting

### Frameworks/Libraries

Pytorch, Hugging Face, Spacy, Scikit, Django, Flask, Selenium, JAX-RS, Agile at Scale

### Databases

DB2, MySQL, SQLite, IMS

### Platforms

NYU HPC, Google Colab, AWS Sage Maker

### Tools

Git, Slurm, Jira, Confluence, Service now, Docker, IBM API Connect, IBM API Manager, SPUFI, File Manager

### OS

Linux, MacOS, Windows

## Employment

### Danske IT and Support Services India Pvt. Ltd

Senior Software Engineer

Bengaluru, India

Aug 2018 - Aug 2021

- Collaborated with senior architects to conceptualize and design REST architecture for legacy mainframe applications.
- Designed and developed a web interface for data insights using React for frontend and Flask for backend for specific users.
- Developed an integration layer in Python connecting Oracle HCM's atom feeds to mainframe based HR systems.
- Designed a test automation framework in Python, integrated it with leapwork (a test automation tool) and Power BI to complete the test cases execution and summary pipeline.
- Created containerized Python and Selenium based RPA bots for multiple teams within the department to save more than 3 FTE efforts.
- Overhauled and stabilized Danske Bank's pension system within 4 months of joining as a sole application developer to eliminate bug-fixing and data fixing efforts of 4 FTEs.
- Recognized and Promoted within 12 months of joining due to strong performance and organizational impact.

### Infosys Limited

Senior Systems Engineer

Chennai, India

Jul 2013 - Aug 2018

- Worked on complete software development life cycle of 2 major legacy modernization projects.
- Collaborated with senior members of the team to analyze, refine and implement a new database design.
- Created processes to migrate more than 30 years of data from hierarchical and old relational databases to new and normalized relational databases.
- Worked on a data backfill mechanism using message queues to save transactional data coming from RESTful web services to DB2 tables.

## Academic Projects

### Lego PCGRL

- Ongoing **research project** about Procedural Content Generation via Reinforcement Learning(**PCGRL**). The idea is to train a level-designing agent capable of building complex Lego 3-D environments.

### Remove Biases from Word Embeddings

- Remove gender and racial bias from word embeddings of English and Turkish languages with the help of debiasing algorithms and ensure their quality and effectiveness post debiasing.

### Dependency Parsing By Finetuning BERT

- Build a dependency parser from scratch by fine tuning an uncased distilbert on en\_gum subset of universal dependencies dataset.

### Quantization Aware Training Support for LSTM Pytorch

- Design and develop a generic algorithm capable of weights quantization-dequantization for all types of neural network layers in pytorch. The algorithm was tested on Pytorch's LSTM layer and it achieved a reduction of 75% in model size with similar perplexity score.

### Distributed Deep Learning

- Scale neural networks to run on multi GPUs setup (2-8). Code convolution operations using C++ and CUDA. Execute Benchmarks using nvprof to measure time and memory footprints.

## Honors

- Recipient of various awards like star, gem, team of the year awards on multiple occasions both at Danske IT and Support Services and Infosys Limited.