# PRALAY RAMTEKE

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## EDUCATION

### Indian Institute of Technology, Patna
June 2014 - June 2018

B.Tech, Computer Science & Engineering, 2018

### Delta Junior College
APBIE 90/100%

## EXPERIENCE

### Wunderman Thompson Commerce, *Engineer (Data Science)*
Delhi NCR
Aug. 2019 - Current

- **Smart Shopping cart:**
  • Designed and created a smart shopping cart with cameras that will automatically scan the product when entered into the cart.
  • Used deep learning models like RetinaNet, YOLOv3 or TinyYOLOv3 to detect commodities from video streams. The pre-trained model was fined tuned using the custom images.
  • Used GCP's Cloud Compute GPU instance for developing and training the model and Raspberry Pi and Intel Movidius Neural Compute Stick were used for deployment.
- **Personalized Search results:**
  • Worked on personalized recommendations within search results based on current browsing and search activity giving relevant product suggestions within the context of the user's behavior.
  • Our machine learning framework consists of Feature generation and Lambda ranking algorithm in conjunction with the machine learning algorithm called Multiple Additive Regression Trees (MART).
- **Recommendation Engine:**
  • Supporting a recommender system for online shopping focusing on the specific characteristics and requirements of electronic retailing.
  • We utilize deep-learning and collaborative filtering, as well as content-based algorithms to ensure the most accurate content for all visitors.

### ChironX(Radical Health Pvt. Ltd.), *Platform Engineer*
Delhi NCR
July 2018 - July 2019

- Worked on various stages of deep learning project, from the implementation of a data lake to developing computer vision models for Image Classification, Object Localization, Semantic Segmentation, etc.
- Built and shipped software for Automatic Data Collection from a remote hospital with minimal internet connectivity.
- Built a fundus Image annotation tool for Ophthalmologists.

### Elucidata, *Data Engineer Intern*
Delhi NCR
May 2017 - June 2017

- Developed a platform to filter the output file of Mass Spectroscopy machine as per the requirements of Data Scientists.
- Automated the process of transferring the large datasets from various cloud services like Google Drive, Dropbox and Box to AWS S3.
- Designed and developed the overall architecture of the application and implemented the foundational elements.
- Unit Tested the complete code base and shipped the application.

### Google Summer of Code - OpenMRS, *Open Source Developer*
Dec. 2015 - Aug. 2016

- Created a bridge between Medical Record Systems(OpenMRS) and reporting and analysis tool(DHIS2), primarily to represent the medical data graphically.
- Worked on a highly mature, enterprise-level codebase, picking up design patterns and best practices. Practiced Agile development aided by Atlassian tools collaborated with seasoned developers from ThoughtWorks and Regenstrief.
- Reduced time to import Report Definitions by 60% by automating the process.
- Extensively Unit Tested the complete codebase of the DHIS2 Report Module.

# PUBLICATIONS

### Exploring Disorder-aware Attention for Clinical Event Extraction

*Published In: Transactions on Multimedia Computing Communications and Applications*

- Event extraction is one of the crucial tasks in biomedical text mining that aims to extract specific information concerning incidents embedded in the texts.
- In this paper, we propose a deep learning framework that aims to identify the attributes (severity, course, temporal expression, and document creation time) associated with the medical concepts extracted from Electronic Medical Records (EMR).
- The Long Short Term Memory Network (Bi-LSTM) assisted by the attention mechanism is utilized to uncover the important aspects of the patient's medical conditions.

### Assessment of an Artificial Intelligence-based System In Detecting Various Retinal Clinical Features

*Under Peer Review: The Journal of the American Medical Association Ophthalmology*

- Assessed the performance of an AI in the detection of 10 major retinal clinical signs in comparison to the readings of retinal specialists taken as the gold standard.
- We used a combination of convolutional, pooling and batch norm layers along with skip/residual connections and dense layer for classification.
- The whole model is trained end-to-end with Adam optimizer under the one-cycle policy.

# DATA SCIENCE COMPETITIONS

### Link Prediction on Hike's Social Network (Ranked in Top 4%)

Designed a friend recommendation system on an active, real-world social network like Hike using Heterogeneous Network Embeddings.

### Club Mahindra DataOlympics(Ranked in Top 8%)

Given the information related to resort, club member, reservation etc. the task is to predict average spend per room night on food and beverages for the each reservation in the test set. I used LightGBM model after careful feature creation process.

### LTFS Data Science FinHack(Ranked in Top 4%)

Built model for Loan Default Prediction model using CatBoostClassifier algorithm with hyperparameter tuning.

### Game of Deep Learning: Computer Vision Hackathon(Ranked in Top 6%)

Built an efficient model to detect Ship or vessel like Cargo, tanker, military, carrier, cruise using CNN model with pre-trained weights from ResNet and DenseNet architecture.

### Innoplexus Hackathon on Sentiment Analysis(Ranked in Top 5%)

Built a model to classify a text into 3 sentiments like Positive, Negative and Neutral Sentiments. I used simple models like LogisticRegression and SVM.

# AWARDS AND ACHIEVEMENTS

### ● Google Summer of Code

1 amongst 1200 students selected worldwide for Google Summer of Code, a selective programming internship where students write open-source software and are awarded a stipend of $5500 by Google.

### ● Google Code-In (2017 and 2018)

Selected as mentor to introduce 13-17 year old pre-university students to open source software development.