Chetan Naik

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Education

Aug 14 - May 16 **Master of Science in Computer Science** Gpa: 3.50/4.0
Stony Brook University, Stony Brook, NY.

Aug 07 - Jun 11 **Bachelor of Engineering in Electronics & Communications** Cgpa: 8.67/10.0
R. V. College of Engineering, Bangalore, India.

Development Experience

Jul 11 - May 14 **Google India Pvt. Ltd.** | Analyst

- Developed and launched a ad-click spam filter which addresses one of the most pressing click fraud problems. It has an impact of around $1 million a month.
- Designed and developed metrics infrastructure for the global team of 50 analysts.
- Developed a method based on Pearson correlation coefficient for histogram similarity search to detect detect fraudulent publisher accounts.

Research Experience

Jan 15 - *present* **Natural Language Processing Lab** | **Stony Brook University** | Research Assistant

As part of the Allen Institute for Artificial Intelligence's (AI2) Project Aristo, we are developing a question answering system that can recognize instances of processes. I am working on this project under the supervision of Prof. Niranjan Balasubramanian.

Skills

Languages Python, C++, C, Lua.
Scientific Software Torch, Theano, TensorFlow, Scikits-learn, NLTK, Numpy, IPython, Pandas, Caffe.

Projects

Deep Learning

- **The Metis Challenge: Naive Bees Classifier - Driven Data**. Sep 15
  Designed and implemented a CNN architecture using Theano to determine the genus of the bee. Achieved an accuracy of 81.9% with just 25 iterations of training on CPU. **World Rank: 28**

- **Word vectors for 4th grade processes using Skip-gram**. Dec 15 - Jan 16
  Implemented a Torch based system to train word vectors for 4th grade vocabulary. This system trains word vectors using skip-gram and uses word2vec to initialize vectors.

- **Predicting facial beauty using CNN**. Aug 14 - Dec 14
  Designed and trained a Convolutional Neural Network (CNN) using Caffe (a fast framework for deep learning) to predict facial beauty without using landmark features. This model has an accuracy of 51%.

- **Learning Process Embeddings**. Jan 16 - *present*
  Learn embeddings of process with the goal of recognizing situations given in questions (i.e., process instance recognition). Model (4th grade level) processes as operators in order to predict the output of a process given its input.

Machine Learning

- **Semantic Role-based Process Knowledge Acquisition**. Sep 15 - Jan 16
  Designed and developed a method to acquire process knowledge using collective role inference across sentences. The proposed method acquires high quality process knowledge (F1 of 0.72 points). *To be submitted to ACL 2016 for publication.*

- **Question Answering System using Word Alignment**. Feb 15 - May 15
  Developed a question answering system that uses alignment (textual entailment and CRF) over semantic roles to answer and pass a 4th grade science exam. The model has an accuracy of 62.5%.

- **Predicting Super Bowl and College Football champions**. AUG 14 - DEC 14
  Designed Point-score difference, Linear Regression and PageRank models to predict the winners of 2015 Super Bowl and College Football Championship. The PageRank model has an accuracy of 63% and it predicted the top two teams correctly.

- **Predicting rating stars of Yelp reviews from review text**. AUG 14 - DEC 14
  Implemented topic models using LDA and NMF along with sentiment layers to predict the review star rating from review text with 61% accuracy.

OTHERS

- **tMood - @bitcamp hackathon**. APR 15
  Develpped a Pebble app that analyses the sentiment of people around you using twitter feeds and displays emoticons.

- **Neera - *Rubik's Cube solving robot***. FEB 15 - MAY 15
  Neera is Rubiks Cube solver robot, designed and built using LEGO Mindstorms NXT and programmed using NXC language.

- **Quadcopter using LPC2148 ARM Controller**. JAN 11 - APR 11
  Came up with a mathematical model of a quad-rotor and an algorithm to correct pitch and roll errors by changing motor thrust.

- **Project Vyoma - A research project at RVCE to design UAVs**. JUN 09 - JUL 11
  Designed and developed the DaQ system to capture flight data. Achieved **8th position** among 70 teams from all over the world in the 'SAE Aero Design' event held in Atlanta, in 2011.

Publications

OCT 15 **Semantic Role Labeling for Process Recognition Questions**.
Samuel Louvan, Chetan Naik, Veronica Lynn, Ankit Arun, Niranjan Balasubramanian, and Peter Clark.
K-CAP Scientific Knowledge Workshop 2015.

Honors and Awards

– Received 2 PQO Gold Awards at Google.
– Received Spot Bonus at Google for my work on histogram based similarity search.
– Received 10 Peer Bonuses for helping out peers by going above and beyond work requirements.

Courses

Algorithms, Operating System, Artificial Intelligence, NLP, Computer Vision, Data Science, Graph Mining, Machine Learning and Robotics.

References

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