Amlaan Bhoi

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Education

- **University of Illinois at Chicago** — Chicago, IL
  Master of Science in Computer Science; GPA: 3.80/4.0 — *Expected May 2019*
  - **Advisor**: Prof. Xinhua Zhang
  - **Relevant Coursework**: Advanced Machine Learning, Applied Artificial Intelligence, Data Mining & Text Mining, Introduction to Data Science, Virtual & Augmented Reality
- **Amity University** — Noida, India
  Bachelor of Technology in Computer Science and Engineering; GPA: 8.28/10.0 — *July 2013 – May 2017*

Experience

- **CCC Information Services** — Chicago, IL
  R&D Intern (Computer Vision) — *May 2018 - Present*
  - **TagNet 1.0**: Designed and trained a custom convolutional network architecture to replace previous model for detecting 16 different views of a car with 25% smaller model size, 30% higher F1-score, and used 0.01% of training dataset. Model is distributed for internal use as a pre-processing step.
  - **TvR 1.2 (Total Loss vs Repairable)**: Trained an ensemble of InceptionResNetV2, MobileNetV2, and Xception models on 1M automobile images to increase accuracy by 25% and reduce inference time by 50%. Product is now deployed in production.
- **Reliance Communications** — Mumbai, India
  Intern — *May 2016 - July 2016*
  - **Architecture Node Maintenance**: Reduced node maintenance costs of network infrastructure by 25% by implementing A* search algorithm on vulnerable nodes.
- **OSSCube Solutions** — Noida, India
  Software Engineer Intern — *May 2015 - July 2015*
  - **Squeek iOS Twitter Application**: Developed iOS Twitter client using REST and Fabric SDK to authenticate user, parse JSON data, and create and show appropriate and customized views to user.

Projects

- **Optical Character Recognition using Conditional Random Fields (Python, Numpy, Tensorflow)**:
  - Achieved 84% letter-wise accuracy with CRF implementation in $O(m|\mathcal{Y}|^2)$ complexity.
  - Wrote parallel implementation using PETSc and Tao (LBFGS optimizer) and achieved 77.1% letter-wise accuracy.
- **Aspect-based Sentiment Analysis (Python, C++, Numpy, Tensorflow)**: Achieved 78.66% accuracy, 0.69 F-1 score with Deep Memory Networks (MemNet) on SemEval 2014 dataset.
- **Alethea (Python, Javascript, Keras, Tensorflow)**:
  - Achieved 81.9% sentiment analysis accuracy using Multiplicative LSTMs on Yelp Reviews dataset.
  - Achieved 91.3% accuracy predicting types of robberies occuring in Chicago for the Summer of 2018 based on previous crime and weather datasets.
- **Lifeguard.io (Python, Microsoft CNTK, OpenCV)**: Trained a 3D-CNN object detection CNTK model to detect drowning people in swimming pool videos with 56% accuracy.

Additional Experience & Achievements

- **CVPR 2018**: Presented a poster on *Tiramisu DenseNet Architecture for Precise Segmentation* at Intel AI Booth
- **Intel AI Student Ambassador**: Work on implementing and sharing research projects on Computer Vision and Machine Translation developed on Intel AI DevCloud
- **Best Microsoft Hack - HackHarvard 2017**: 1st out of 220 teams
- **Google Games: Campus Edition 2016 - UIC**: 16th out of 50 teams
- **Best in Technical Innovation - Amity University**: 1st out of 800 students
- **ACM Amity Student Chapter - Amity University**: Vice-chair (Jan 2015 - September 2017)

Languages and Technologies

- Python (proficient), Java (familiar), C++ (familiar), C (familiar), SQL (familiar)
- Tensorflow, Keras, PyTorch, Scikit-Learn, OpenCV