Amlaan Bhoi

abhoi3@uic.edu | 630-362-5747 | LinkedIn: abhoi | Github: abhoi
1720 S Michigan Ave, Chicago, IL

Education

University of Illinois at Chicago — Chicago, IL
Master of Science in Computer Science; GPA: 3.83/4.0 — *Expected May 2019*
Thesis: Invariant Kernels for Few-shot Learning
Relevant Coursework: Advanced Machine Learning, Advanced Database Management Systems, Applied Artificial Intelligence, AI: Innovation & Entrepreneurship, Data Mining & Text Mining, Introduction to Data Science

Amity University — New Delhi, India
Bachelor of Technology in Computer Science & Engineering; GPA: 3.32 (8.28/10.0) — *Aug 2013 - May 2017*

Skills

- **Languages**: Python, C++, SQL, Java, Swift — **Technologies**: GCP, AWS, GitHub, GitLab, Docker
- **Libraries**: TensorFlow, PyTorch, Keras, Scikit-Learn, Numpy, Pandas, Spark, Jupyter, OpenCV, PIL, OpenCL, OpenGL, CUDA

Experience

CCC Information Services — Chicago, IL
R&D Engineer Intern (Machine Learning) — *May 2018 - Present*
- **RotNet**: Designed and trained a shallow CNN to classify rotated images. Achieved F1-score of 0.99 on test set of 1M+ images
- **TagNet**: A computer vision model to classify views of automobile images
  - Implemented an expectation maximization algorithm to sample and classify images from 6M+ unlabeled images to prepare a clean dataset of 100K+ images for training
  - Designed and trained a low-complexity CNN to classify 20+ views of automobile images resulting in 30% improvement in F1-score compared to SVM model
  - Reduced model complexity and size by 40% by freezing model and performing post-training quantization
- **TVR**: A computer vision model to determine if image is total loss or repairable
  - Trained ensemble of CNN architectures on 1M+ automobile images to classify vehicles as total loss or repairable resulting in 25% higher weighted F1-score and 60% decrease in model size compared to older iteration
  - Incorporated first notice of loss information using NLP to increase F1-score by 10%

Reliance Communications — Mumbai, India
Software Engineer Intern — *May 2016 - Aug 2016*
- **Optimal Node Search**: Implemented DijkstraâĂŹs algorithm on 10K+ network nodes to find shortest path for signal propagation resulting in 25% reduction in costs

OSSCube — New Delhi, India
Software Engineer Intern — *May 2015 - Aug 2015*
- **Squeek Twitter iOS**: Designed and developed Twitter client using Fabric SDK

Projects

- **OCR using Conditional Random Fields**: A probabilistic graphical model for sequential character recognition
  - Implemented a CRF in $O(m|\mathscr{Y}|^2)$ time to achieve a 84% letter-wise accuracy on UPenn OCR dataset
  - Implemented OpenMPI CRF using PETSc and Tao to achieve 77.1% letter-wise accuracy
- **ARYouThereYet**: An augmented reality application developed on ARKit with dynamic AR nodes
- **Aspect-based Sentiment Analysis**: Implemented Deep Memory Networks to achieve 78.66% accuracy, 0.69 F1-score on SemEval 2014 dataset
- **Iris Speech to Code**: A natural speech to code converter for aiding programmers with disabilities
  - Trained an intent classification model in Microsoft Luis to classify 15+ classes or commands
  - Implemented a message passing protocol using RabbitMQ to broker messages between Google API, ElectronJS, and VS Code
- **AI Lifeguard**: Trained a 3D-CNN model on Microsoft Azure for action localization on drowning people in swimming pools. Achieved mean IOU score of 0.45

Additional Experience & Achievements

- Presented poster on *Tiramisu DenseNet Architecture for Precise Segmentation* for Intel AI at **CVPR 2018**
- Selected as an **Intel AI Student Ambassador** (only 150 students) to research, publish, and share work on machine learning and deep learning
- Won *Best Microsoft Hack* out of 220 teams at **HackHarvard 2017**
- Placed 16/50 at Google Games: Campus Edition 2017 at UIC
- Won *Best Technical Innovation* award (out of 800 students) at **Amity University Convocation 2017**
- Elected as a *Vice-Chair* for **ACM Amity Student Chapter** out of 800 students at Amity University based on high-achieving and technically strong undergraduate students