

# RUTU GANDHI

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## EDUCATION

- **Master of Science, Artificial Intelligence**, The University of Georgia, Athens, Georgia **May 2020**  
**Relevant coursework:** CSCI8955 Advanced Data Analytics, CSCI6550 Artificial Intelligence CSCI8360 Data science practicum CSCI8920 Decision Making GPA: 3.83
- **Bachelor of Computer Science Engineering**, Pune Institute of Computer Technology, (Pune University), India **May 2018**  
GPA: 3.8 Estimated Class Rank: Top 10%  
**Relevant coursework:** Data Structures, Algorithms, Linear Algebra, Algorithms, Data mining, BI

## CERTIFICATIONS

- C programming from *Seed Infotech*
- Java Programming from *Pune Institute of Computer Technology*
- Machine Learning by Andrew Ng, *Coursera*
- Audited the Computer Vision (CS231n) course, *Stanford University*
- Microsoft Technology Associate Certification
- Game Development and Gesture Control Certification- organized by *InfoZeal IIT Alumni*

## TECHNICAL SKILLS

- **Programming Languages:** Python, Keras, Tensorflow, C++, PySpark, Octave, JSP, Ruby on Rails,
- **Operating Systems:** Ubuntu, Fedora, Windows, Linux Kali
- **Platforms:** Apache Spark, Eclipse, Qt Creator, Vi, Android Studio

## PUBLICATIONS

- Gandhi, R., Nimbalkar, S., Yelamanchili, N., & Ponkshe, S. (2018). Plant disease detection using CNNs and GANs as an augmentative approach. *2018 IEEE International Conference on Innovative Research and Development (ICIRD)*. DOI:10.1109/icird.2018.8376321 (Keywords: Computer Vision, Deep Learning, Generative Adversarial Networks)

## APPLIED EXPERIENCE

- **Trainee Intern, Happi@Work, Pune, India** **March 2018**  
**Technical Details:** Python, numpy, scipy, matplotlib, scikit-learn, AngularJS
  - Devised NLP algorithms for qualitative analysis including Text Summarization, Word Tree, Word Cloud, Phrase Net. These facilitated the company to get a clear picture of the textual feedback from their clients and pin down the exact areas of improvement.
- **Machine Learning Intern, TESLA, Fremont, CA** **Summer 2019**  
**Technical Details:** Python, Keras, Tensorflow, Spark, PostgreSQL, QGIS, C#
  - Worked exhaustively with GPS fleet tracking platform to build a traffic model to optimize the existing path planning app.
  - Built a pipeline for the collection and preprocessing of real-time data streams from more than 500 fleet vehicles. (>24 GB data collected per day)
  - Trained and Compared the performances of Neural Nets and the Random Forest
  - Improved the estimated time of travel by 5-10mins by adding this traffic prediction feature

## PROJECT AND RESEARCH EXPERIENCE

- **Research Assistant at CEID, UGA** **Present**  
**Technical details: Tensorflow**
  - Working on time-series data for Influenza season forecasting
- **UGA Small Satellite Research Lab, University of Georgia** **Present**  
**Technical details:** C++, CUDA, Keras
  - Worked with time-series data
  - Developed a pipeline to capture and preprocess images
  - Built and trained a segmentation model using UNets
- **Brain MRI Segmentation to study brain development using longitudinal data, University of Georgia, Dr. Yi Hong** **December 2018**  
**Technical Details:** Keras, Tensorflow, CUDA, Free surfer, Python

- Designed the layering of LSTM with well-known image segmentation algorithms like FCN and U-NETs to achieve longitudinal image segmentation.
- **Plant Disease Detection using Deep Learning, Pune Institute of Computer Technology** **May 2018**  
**Technical Details:** Android, Tensorflow, OpenCV, Matlab, Jupyter Notebook, Python
  - Implemented image segmentation algorithms and got rid of 70% of the background noise.
  - Employed Generative Adversarial Networks (GANs) to expand limited datasets and trained CNN models for classification. Achieved 92% accuracy.
  - Optimized the deep neural network to work efficiently on embedded devices.
  - Plan on providing the project to the Agricultural College, Pune to further reach the State Government.
- **Machine Learning Approach to Visual Perception in Robots, Pune Institute of Computer Technology** **March 2017**  
**Technical Details:** Keras, Tensorflow (Backend), Python, OpenCV, Jupyter Notebook
  - Worked on perceiving forest or mountain trails from a single monocular image acquired from the viewpoint of a robot traveling on the trail itself. Obtained an accuracy comparable to the human accuracy

## **LEADERSHIP EXPERIENCE**

### **IEEE Student Branch:**

- Lead organizer, Secretary of Finance
- Editor of the technical newsletter, P.I.N.G ([https://issuu.com/p.i.n.g/docs/p.i.n.g\\_12.0](https://issuu.com/p.i.n.g/docs/p.i.n.g_12.0))

## **RELEVANT ACHIEVEMENTS:**

- Winner, Concepts '18 (project competition), AI and ML domain, Pune Institute of Computer Technology.
- 1<sup>st</sup> Runner-up, Open showcase (Project competition), Birla Institute of Technology and Science, Pilani