Shantanu Ghosh

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OBJECTIVE *To secure a PhD position in the area of Machine Learning/Deep Learning with a focus of Computer Vision and Causal Inference*

RESEARCH INTERESTS *Deep Learning, Machine Learning, Computer Vision, Causal Inference*

EDUCATION

University of Florida, Gainesville, FL, USA
Master of Science, Computer and Information Sciences
Aug, 2019 - Aug, 2021 GPA: 3.88/4

West Bengal University of Technology, West Bengal, India
Bachelor of Technology from Institute of Engineering and Management
Computer Science and Engineering
Aug, 2008 - Aug, 2012 GPA: 8.38/10

RESEARCH EXPERIENCE

Data Intelligence Systems Lab (DISL), Gainesville, FL, USA
Graduate Student Researcher ***May 2020 - Present***
Developing a Deep Auto encoder based Neural Network model to perform propensity score matching to estimate average causal effect of a treatment in the area of Causal Inference under the supervision of Dr Prof Mattia Prosperi of the department of Epidemiology in the University of Florida.

Multimedia Communications and Networking Laboratory (MCN), Gainesville, FL, USA
Independent Researcher ***Feb 2020 - Present***
Developing a Deep Convolutional Neural Network with Multitask Learning to classify different textures within a image under the supervision of Dr Prof Dapeng Oliver Wu of the Department of Electrical & Computer Engineering in the University of Florida.

EXPERIENCE

Lexmark International India Pvt Ltd, Kolkata, West Bengal, India
Software Engineering Professional II ***Oct 2016 - July 2019***
Worked as a Senior UI developer for the product Publishing Platform for Retail(PPR) and developed InStore Publisher component(ISP) of PPR using Angular, Bootstrap, HTML5, CSS and performed unit testing using Jasmine/Karma Framework with active participation in 2 major releases.

Cognizant Technology Solutions India Pvt Ltd, Kolkata, West Bengal, India
Associate, Projects ***March 2013 - September 2016***
As an Application developer of the project Wells Fargo Domain Services and Customer Centre Optimization, developed 9 WCF web services in the Contract First Approach to provide secure communication between different In-house applications and the reporting platform of Wells Fargo using Service Oriented Architecture (SOA) using C# .Net 4.5, Oracle Client 11g.

PROJECTS

Classification of Handwritten Characters **Sep - Dec 2019**
Fundamentals of Machine Learning, University of Florida, FL, USA

Developed a deep CNN to classify Handwritten Characters, by training it with the Handwritten Character Dataset under the guidance of Prof Alina Zare, inspired by the famous architecture **"Lenet"** (http://yann.lecun.com/exdb/publis/pdf/lecun-01a.pdf) by utilizing the Adam Optimizer, Batch Normalization and dropout and achieved a classification accuracy of **97.3%** on a customised data set prepared by Prof Zare

- **Technology/Tools:** Python, Pytorch
- **Link :** https://github.com/Shantanu48114860/Handwritten-Character-Recognition

Implementation of P2P network **Nov - Dec 2019**
Computer Networks, University of Florida, FL, USA

Created a peer-to-peer(P2P) network for file downloading. Developed components – peer and file owner. The file owner has a file, and breaks the file into chunks of 100KB. Each peer connects to the file owner to download some chunks. It then has two threads of control, one acting as a server that uploads the local chunks to another peer (referred to as upload neighbor), and the other acting as a client that downloads chunks from a third peer (referred to as download neighbor). Tested the code with max **5** peers and max file size of **13.3 MB**.

- **Technology/Tools:** Socket Programming, Java
- **Link :** https://github.com/Shantanu48114860/P2P-File-sharing

Hashtag Counter **March - April 2020**
Advanced Data Structures, University of Florida, FL, USA

Implemented a system to find the most popular hashtags that appear on social media such as Facebook or Twitter using Max Fibonacci Heap data structure and a max priority structure to find out the most popular hashtags. Tested the code with **1M** hashtags.

- **Technology/Tools:** Java
- **Link :** https://github.com/Shantanu48114860/HashTagCounter

TECHNICAL SKILLS

Languages : Python, C++, C, Java, C#, Javascript/Typescript
Database : MySQL, Oracle 9i/10g, MS SQL Server, DB2
Web Development : Angular, Node.js, WCF
Machine Learning : TensorFlow, PyTorch, NumPy, Scikit-learn

CERTIFICATION .

• **Mathematics for Machine Learning: Linear Algebra** by Imperial College of London on *Coursera*
Verify : https://www.coursera.org/account/accomplishments/certificate/WQ4T9KJY9BMQ
• **Mathematics for Machine Learning: Multivariate Calculus** by Imperial College of London on *Coursera*
Verify : https://www.coursera.org/account/accomplishments/certificate/6T8VSZFQQTL3
• **Neural Networks and Deep Learning** by Prof Dr Andrew Ng on *Coursera*
Verify : https://www.coursera.org/account/accomplishments/certificate/7QTVEMQDCBYT
• **Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization** by Prof Dr Andrew Ng on *Coursera*
Verify : https://www.coursera.org/account/accomplishments/certificate/K5CPQ59DJU4H
• **Convolutional Neural Networks** by Prof Dr Andrew Ng on *Coursera*
Verify : https://www.coursera.org/account/accomplishments/certificate/Q5C738AYSZ3Q

GRADUATE COURSES

• Fundamentals of Machine Learning • Distributed Operating Systems • Computer Networks • Mathematics for Intelligent Systems • Advanced Data Structures • Machine Learning • Deep Learning Comp Graphics • Fundamentals of Probability

ACHIEVEMENTS .

• Recipient of **National Scholarship** Award from **Central Government Human Resource Development Department of Higher Education, India** for excellent result in Higher Secondary Examination in the state of West Bengal, India.
• Topped with **1%** of all candidates appeared in **West Bengal Joint Entrance Examination** in 2008.