

Shantanu Ghosh

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OBJECTIVE	<i>To secure a PhD position in the area of Machine Learning/Deep Learning with a focus of Computer Vision and Causal Inference</i>
RESEARCH INTERESTS	<i>Deep Learning, Machine Learning, Computer Vision, Causal Inference</i>
EDUCATION	<p>University of Florida, Gainesville, FL, USA <i>Master of Science, Computer and Information Sciences</i> Aug, 2019 - Aug, 2021 GPA: 3.88/4</p> <p>West Bengal University of Technology, West Bengal, India <i>Bachelor of Technology from Institute of Engineering and Management</i> Computer Science and Engineering Aug, 2008 - Aug, 2012 GPA: 8.38/10</p>
RESEARCH EXPERIENCE	<p>Data Intelligence Systems Lab (DISL), Gainesville, FL, USA <i>Graduate Student Researcher</i> 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.</p> <p>Multimedia Communications and Networking Laboratory (MCN), Gainesville, FL, USA <i>Independent Researcher</i> 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.</p>
EXPERIENCE	<p>Lexmark International India Pvt Ltd, Kolkata, West Bengal, India <i>Software Engineering Professional II</i> 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.</p> <p>Cognizant Technology Solutions India Pvt Ltd, Kolkata, West Bengal, India <i>Associate, Projects</i> 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.</p>
PROJECTS	<p>Classification of Handwritten Characters Sep - Dec 2019 <i>Fundamentals of Machine Learning, University of Florida, FL, USA</i></p> <p>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</p>

- **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.