

Anindita Nath

Computer Science Teacher
Research & Development (R&D)

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An accomplished and proficient programmer, articulate communicator, and a passionate teacher. Broad research and development experience optimizing machine, deep or multitask learning systems for business-critical Natural (Speech) Language Processing (NLP) tasks. Highly motivated and seeking opportunities to transfer my knowledge gained as an R&D scientist for 4+ years, a programmer for 5+ years as well as a teaching assistant and instructor for 5 years and freelance tutor for more than a decade to educate computer science enthusiasts.

Technical Proficiencies

Platforms	Linux, Goggle Colab, AWS, Oracle, Android
Tools	Python, TensorFlow, Keras, PyTorch, Transformers. MATLAB, C#, ASP.Net, VB, Java, JScript, HTML, C++, C, PL/ SQL, Tableau, MS Office
Data Science	Machine Learning, Deep Learning, Multitask Learning, Natural Language Processing (NLP), Speech Processing, Feature Reengineering, Data Analytics

Teaching Experience

University of Texas El Paso, El Paso, TX
Graduate Teaching Assistant

Jan 2019 – Present

Design learning and test materials and occasionally teach for college-level Data Structures, Automata, and introductory Computer Science courses.

Fab Lab El Paso | Microsoft TechSpark, El Paso, TX
Main Programming Instructor

October 2021 – December 2021

Planned and led the instructional team of the remote course "Introduction to Python Programming for Business" to the students of the business school at UTEP.

Austin High School, El Paso, TX
Microsoft TEALS Volunteer Teacher

May 2019 -Aug 2019

Taught introductory Computer Science and advanced AP level courses and spread technical awareness among high schoolers.

Research & Development Experience

DvSum Inc., Sunnyvale, CA
Data Engineering Intern

Jun 2021 – Aug 2021

Introduced and improved context-based semantic search in the AWS Elastic Search Database of large-scale real-life data.

University of Pennsylvania, Philadelphia, PA
Summer Research Intern

Jul 2020 – Aug 2020

Delivered time-sensitive research for 2020 Empirical Methods in Natural Language Processing (EMNLP) Workshop on Noisy User-generated Text (WNUT). Identified applicable messages and multiple relevant events

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from 7K+ English tweets addressing COVID-19 by employing Bert-based multi-task learning models and achieved 95%+ accuracy.

University of Texas El Paso, El Paso, TX Graduate Research Assistant

Jan 2017 – Aug 2020

Completed multiple data analytics and deep learning research projects for clients across the public and private sectors.

- Applied process mining to track and predict maternal morbidity in pregnant women using NIH's All of Us Research data.
- Designed prototype Tableau dashboard for City of El Paso that tracks critical COVID-19 business data.
- Predicted appropriate turn-taking in senior citizen conversations (English and Japanese) for Toyota Motor Corporation, Japan. Project aimed to train robots to communicate successfully and emulate human speech.
- Developed optimized learning solutions using prosody to predict relevance, resolution, and location of disasters. Provided real-time information in any language, specifically those with minimum available resources, to support emergent missions for the project Low Resource Languages for Emergent Incidents, for Defense Advanced Research Projects Agency (DARPA), an agency of the US Department of Defense.

3M, Pittsburgh, PA Natural Language Processing Intern

May 2019 – Aug 2019

Built deep learning LSTM-RNN models using prosody; streamlined turn-taking in automatic medical transcriptions. Processed 36K records and achieved lowest loss rate of 0.01.

Food Corporation of India, Kolkata, India Information Technology Assistant

Apr 2011 – Dec 2016

Directly contributed to revenue increase of 1M+ rupees in 2015-2016 by automating the process for e-auctioning wheat across Eastern Zone.

Softthink Intelligent Solutions Pvt. Ltd., Kolkata, India Software Developer

Dec 2010 – Mar 2011

Publications

- *Using Prosody to Find Mentions of Urgent Problems in Radio Broadcasts*, Speech Prosody, 2020.
- *Towards Naturally Responsive Spoken Dialog Systems by Modelling Pragmatic-Prosody Correlations of Discourse Markers*, ACM International Conference on Intelligent User Interfaces Companion, 2020, Cagliari, Italy.
- *Responding with Sentiment Appropriate for the User's Current Sentiment in Dialog as Inferred from Prosody and Gaze Patterns*, ACM International Conference on Multimodal Interaction, 2018, Boulder, CO, USA.

Education

Doctor of Philosophy (PhD) in Computer Science, University of Texas at El Paso, TX, 2017 – Current
GPA: 4.0 / 4.0

MBA in IT & Systems Management, Jadavpur University, Kolkata, India, 2012 – 2015

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GPA: 9.5 / 10 (Top of Class)

Master of Computer Applications, West Bengal University of Technology, Kolkata, 2007 – 2010

GPA: 9.23 / 10 (Top of Class)

Bachelor of Science (BS) in Mathematics, University of Calcutta, Kolkata, India, 2004 – 2007

Certifications

- Machine Learning, Coursera, 2016
- VB.Net with Windows Application, CMC Academy Ltd., 2009; UML, HP Education, 2009
- Computer Applications, Webel Informatics, Ltd., 2007

Honors & Awards

- Generation Google Scholar, 2020
- Upsilon Pi Epsilon Scholar, 2019; President, Upsilon Pi Epsilon UTEP Chapter (2019-2021)
- Offices.Net Academic Scholar, 2017 for essay, *How Does Technology Affect the Work Environment Today?*

Synergistic Activities

- Regeneron International Science and Engineering Fair (ISEF) Grand Award Judge, 2021
- COURI Symposium Judge, UTEP (2019, 2020, 2021)
- Student Panelist – ACM-IMS, San Francisco, CA, 2019
- Poster Presenter – CRA (Computing Research Association) W Grad Cohort, Chicago, IL, 2019 & 2021
- Oral and Poster Presenter – ICMI (International Conference on Multimodal Interaction), Boulder, CO, 2018

Community and Volunteer Activities

- Summer Volunteer Instructor for “Girls Who Code” Summer Program 2021 in the FabLab, El Paso, Texas.
- As a president of the UTEP chapter of Upsilon Pi Epsilon (2019-2021):
 - Organized tutorial sessions for undergraduate computer science (CS1 and CS2) students.
 - Organized and led mock practice sessions for PhD. Dissertation Defense and Qualifiers.
 - Organized workshop, “Python Data Libraries” and led the workshop “Research Poster Basics” along with Computing Alliance of Hispanic-Serving Institutions (CAHSI) in 2021.
- As a New Student Engagement Director and Professional Development Director (2019) for the UTEP Chapter of Golden Key International Honor Society, co-planned and organized the Miner Palooza event.
- As a sponsor for PLAN India since 2016, sponsored life-time education and overall well-being of a destitute India girl child.
- As a certified welfare activist for Astha, NGO in Kolkata, India, helped the homeless in Kolkata and its outskirts with basic amenities, tutored street kids and organized vocational training for village women and local blood donation camps.

Extra-Curricular Accomplishments

- Contributor for popular news dailies and magazines of India viz., *HaatPakha* (Bengali), *Ankur* (Hindi), *Statesman* and *Hindustan Times* (English).
- Awardee in national (India) level Debate, Elocution, Recitation, Creative Writing, Quiz and Drama competitions in 2002-2016.