Anish Acharya

Website Google Scholar Linkedin GitHub
anishacharya@utexas.edu •anisha@uci.edu • (352) 871-3606

Education

- **University of Texas, Austin** — **Austin, TX**
  PhD, Electrical Engg. and Computer Science — *Fall, 2019– Ongoing*
  Advisor: Inderjit Dhillon and Sujay Sanghavi

- **University of California, Irvine** — **Irvine, CA**
  M.S. Electrical Engg. and Computer Science — *Sept, 2013– Dec, 2014*

- **Jadavpur University** — **Kolkata, India**
  B. Engg. Electronics and Instrumentation engineering — *May, 2009 – March,2013*
  Advisor: Amitava Gupta and Shantanu Das

Core Technical Skills

- **Interests:** Natural Language Processing, Deep Learning, Convex Optimization, ML Theory
- **Programming Languages**- Python, C++, C, Bash, MATLAB
- **Deep Learning Framework**- PyTorch, TensorFlow

Work Experience

- **Amazon Alexa AI** — **Sunnyvale,CA**
  Applied Scientist — *June,2016 - July 2019*
  – Applied Scientist in the Natural Language Understanding group of Amazon Alexa Conversational AI Core ML group @ Amazon Lab 126. Involved in proposing, designing , implementing core Alexa NLU models (Named Entity Recognition, Intent Classification, Entity Resolution, Domain Classification, Compressed DNN) Notable Live Launches of models owned by me: Communications (Alexa Calling), Timers, Alarms, Reminders, Calendar, Echo Show. I was also a leading scientist to launch **Alexa Conversations**.

- **eBay inc** — **San Jose,CA**
  Data Scientist — *Nov, 2015 - June 2016*
  – Data Scientist in the Customer Insights and Analytics Team where I worked on the Targeting Engine built on a Collaborative Filtering Framework to connect customers with the right items as well as targeting customers through personalized e-mails.

- **Schlumberger** — **Houston,Tx**
  Data Scientist — *March, 2015- Nov, 2015*
  – Worked on designing, implementing and optimizing machine learning algorithms that work on structured and unstructured data originating from multiple sources including Schlumberger's business systems, sensors and cyber infrastructure.I also work on using text mining and natural language processing techniques to develop powerful insights form social, marketing and other sources of text data and use big data technologies to scale the developed algorithms to handle massive amounts of data.

- **FEM inc.[Now Prizma.ai]**[acquired by **Nielsen Gracenote**] — **Los Angeles,CA**
  Data Engineer - Intern — *Winter, 2015*
  – In this start-up environment I wore many hats as the first scientist intern. I worked with the co-founders on envisioning NLP models, designing content recommendation system using these models and building visualization interactive online analytics dashboard. Extremely fulfilling experience to build my first real-word production ready system from scratch and for having great mentors there.

- **Toyota technological Institute Chicago(TTIC)** — **Chicago,IL; Ann Arbor,MI**
  Data Scientist - Visiting Research Intern — *Summer, 2014*
  – We developed a real-time stereo algorithm to reconstruction 3D surrounding for autonomous car. Another extension was to develop a stereo evaluation benchmark based on slanted plane model of the surrounding. This project was developed for **Toyota Research in North America (TRINA)**. At TTIC I was hosted by**Prof. David McAllester**.

- **University Of California Irvine** — **Irvine,CA**
  Research / Teaching Assistant — *2013-2014*
  – Mostly involved in modelling, developing structured prediction algorithms using Belief propagation based learning on images, social network. Also, was involved in managing two undergraduate students on the lab project.

- **Bhabha Atomic Research Center** — **Mumbai, India**
  Visiting Research scientist — *Summer 2012*
  – Mostly responsible for object detection and tracking used in tracking ,monitoring and deciding automatically on launching, evading missiles and other potential attacks. I was hosted by **Shantanu Das**, Scientist H+, BARC

- **IIT Kharagpur** — **Kharagpur, India**
  Visiting Junior Research Fellow — *Summer 2011*
  – Visiting Research Scholar (Intern) at Electrical Engineering Department. I was hosted by **Prof. karabi Biswas**

Selected Publications

- **Anish Acharya** , Rahul Goel, Angeliki Metallinou, Inderjit Dhillon, "Online Embedding Compression for Text Classification using Low Rank Matrix Factorization", **AAAI-2019** **Read Online**

- **Anish Acharya**, Saptarshi Das, Indranil Pan, Shantanu Das "Extending The Concept Of Analog Butterworth Filter For Fractional Domain";**Signal Processing (Elsevier)** SIGPRO-D-12-01178 , Volume 94, January 2014, Pages 409-420

- **Anish Acharya** ,Saptarshi Das , Indranil Pan "Optimum PID Control of Multi-wing Attractors in A Family of Lorenz-like Chaotic Systems", International Conference on Computing Communication and Networking technologies (ICCCNT-2012), 26-28 July,2012

- **Anish Acharya**, Debatri Mitra, Kaushik Halder, "Stability Analysis Of Delayed System Using Bode's Integral " , 2013 International Conference on Computer Communication and Informatics (ICCCI-2013), Jan. 09-11, 2013,Coimbatore, India

- Saptarshi Das , **Anish Acharya** ,Indranil Pan "Simulation studies on the design of optimum PID controllers to suppress chaotic oscillations in a family of Lorenz-like multi-wing attractors", **Mathematics and Computers in Simulation (Elsevier)** (2014)

- Sayan Saha, Saptarshi Das, **Anish Acharya**,Abhishek Kumar, Sumit Mukherjee, Indranil Pan, Amitava Gupta "Identification of Nonlinear Systems From the Knowledge Around Different Operating Conditions: A Feed-forward Multi-Layer ANN Based Approach", The Second IEEE International Conference On Parallel, Distributed and Grid Computing (PDGC-2012), Solan, India,06-08 December,2012

- Anindya Pakhira , Saptarshi Das , **Anish Acharya**, Indranil Pan, Suman Saha "Optimized Quality Factor of Fractional Order Analog Filters with Band-Pass and Band-Stop Characteristics" International Conference on Computing Communication and Networking technologies(ICCCNT-2012),26-28July,2012, Coimbatore,India

- Saptarshi Das, Abhishek Kumar, Indranil Pan, **Anish Acharya**, Shantanu Das, Amitava Gupta, "Least square and instrumental variable system identification of AC servo position control system with fractional Gaussian noise", International Conference on Energy, Automation and Signal (ICEAS-2011), art. no. 6147165 , pp. 545-550, Bhubaneswar, India

In The News

- The Telegraph - **Press Release** May, 2007
- **Amazon Blog** on Alexa NLP model compression work Jan, 2019
- **HakerNews** on DNN Compression Research Jan, 2019
- **Packt Blog** on my research @ Amazon Alexa AI Jan, 2019

Honors and Awards

- **MHRD Fellow** (Ministry of Human Resource Development, Govt. of India) 2009-2013
- **Governor's Medal** Recipient (Mamraj Agarwal Rashtriya Puraskar) 2007