

# ANANTH SHREEKUMAR

✉ ananth.shreekumar@iiitb.org • 🌐 Portfolio • 🐙 Github • 📞 (+91) 88848 55983

## EDUCATION

### Integrated Master of Technology in Computer Science

AUG 2016 - PRESENT

INTERNATIONAL INSTITUTE OF INFORMATION TECHNOLOGY - BANGALORE (IIIT-B)

• 8th Semester Student, CGPA : 3.9 / 4.0

[\[TRANSCRIPT\]](#)

• 5 year program, Expected Graduation : July, 2021

## EXPERIENCE

### Research Intern - Open Set Recognition Methods for Microscopic Urinalysis

JAN 2019 - JUL 2019

COMPUTATIONAL SCIENCES LABORATORY - IIIT-B

PROF. G N SRINIVASA PRASANNA

- Open Set Recognition methods that accurately classify in-class (positive) samples and reject out-of-class samples.
- Implementation of the existing technique OpenMax as an application on this dataset.
- Created a novel approach that increased rejection accuracy by 10% while maintaining positive class accuracy at 85%.
- Work included in a paper that was accepted at the **Medical Imaging meets NeurIPS 2019 workshop, 33rd Conference on NeurIPS**.

### Teaching Assistant

AUG 2019 - DEC 2019

MATHEMATICS FOR MACHINE LEARNING - IIIT-B

- Responsibilities included handling tutorial classes, problem solving sessions and exam paper evaluation.

## PUBLICATIONS

- Tarun Dutt, G.N.S. Prasanna, T.R. Dastidar, and Ananth Shreekumar. *Towards Artifact Rejection in Microscopic Urinalysis*. Medical Imaging meets NeurIPS 2019 workshop, 33rd Conference on Neural Information Processing Systems. [\[PDF\]](#)
- Ananth Shreekumar\*, Biswesh Mohapatra\*, and Srisha Rao. *Incorporating Autonomous Bargaining Capabilities into E-Commerce Systems*. 20th ACM International Conference on Intelligent Virtual Agents. [Accepted]

## PROJECTS

### E-Commerce Bargaining Agent

AUG 2019 - JUL 2020

7TH SEMESTER - ARTIFICIAL INTELLIGENCE COURSE

PROF. SHRISHA RAO

- Implementation of an E-Commerce Agent that has the ability to bargain with a user by offering discounts, recommending product bundles, and evaluating counter-offers made by the user.
- Evaluate offers and propose counter-offers using the Thomas-Kilman Conflict Mode instrument and the BOA Model.
- Work accepted as a full paper at the **20th ACM International Conference on Intelligent Virtual Agents (IVA'20)**.

### Mapper - Topological Data Analysis

MAR 2020 - APR 2020

8TH SEMESTER - COMPUTATIONAL TOPOLOGY COURSE

PROF. AMIT CHATTOPADHYAY

- Implemented the Mapper algorithm from Topological Data Analysis.
- Involves dimensionality-reduction that requires implementing a variable number of loops, which is solved by recursion.

[CODE](#)

### A Column Store database

APR 2020 - MAY 2020

8TH SEMESTER - DATA MODELING COURSE

PROF. CHANDRASHEKAR RAMANATHAN

- Implemented a schema in XMLSchema for Relational Database schemas. This required working at a meta-meta-data level.
- Implemented Schema Extractor and Schema Loader classes, that parse an XML instance of the above XMLSchema and create required Tables, Views and add the appropriate Entity-Integrity Constraints and Referential Integrity Constraints.

[CODE](#)

### Bangalore Metropolitan Transport Corporation - Cost Minimization

JAN 2018 - MAR 2018

PROJECT INTERN - IIIT-B

PROF. V N MURALIDHARA

- Optimization of the Bangalore Metropolitan Transport Corporation bus schedule to minimize their cost of operation.
- Cost was calculated using the salaries of various worker roles and time spent on duty.
- Constraints included a time table and the number of buses along a route.

## Toxic Comments Classification

SEP 2018 - NOV 2018

5TH SEMESTER - MACHINE LEARNING COURSE

PROF. G SRINIVASARAGHAVAN

- Multi-label machine learning classifier that can classify comments found online into multiple classes of vituperation.
- Training included various Machine Learning methods and their ensembles, and blending and stacking.

 [REPORT](#)

## English to Japanese Transliteration

JAN 2020

8TH SEMESTER - NATURAL LANGUAGE PROCESSING COURSE

PROF. G SRINIVASARAGHAVAN

- Convert Japanese written in English to Japanese written in ひらがな.
- Developed the algorithm for transliteration using the Unicode text standard.

 [CODE](#)

## Simple As Possible - 1 Computer

APR 2017

2ND SEMESTER - DIGITAL DESIGN COURSE

PROF. SUBAJIT SEN

- Built the Simple As Possible - 1 Computer in Verilog.

 [CODE](#)

## TECHNICAL SKILLS

**Programming Languages :** Python • C++ • C

**Tools :** Git • Jenkins • Docker • GNUPlot •  $\text{\LaTeX}$

**Data Science :** Pytorch • Scikit-Learn • Tensorflow • Keras • OpenAI-Gym

**Others :** SQL • XML • Linux • MS Excel

## EXTRA-CURRICULARS

### Global Leader Experience, Bangalore

DEC, 2019

CONDUCTED BY COMMON PURPOSE

- Week-long program designed to build leadership and team working skills and to develop Cultural Intelligence.
- The theme: "How do you ensure that technological innovation provides economic as well as social value in cities?"
- Worked with students from **King's Business School, London** to provide a solution for a complex problem in Bangalore.

## COURSE WORK

**Theory and Systems :** Data Structures and Algorithms • Automata Theory and Computability • Operating Systems • Database Systems

• Programming Languages • Software Engineering

**Data Science and AI :** Machine Learning • Automatic Speech Recognition • Visual Recognition • Reinforcement Learning

**Mathematics :** Linear Algebra • Convex Optimization • Discrete Mathematics • Probability Theory

**Others :** Digital Design • Signals and Systems • Computer Architecture • Computer Networks

## ACHIEVEMENTS

Selected for **Dean's Merit List** at IIIT-B for three consecutive years for academic excellence

2017 - 2019

Received **Merit Scholarship** at IIIT-B for three consecutive years

2017 - 2019

All India IIT-JEE Main Examination - 99.39 percentile

2016

Karnataka State **Common Entrance Test** - Rank 98 / approx. 120,000 candidates

2016

## HOBBIES AND INTERESTS

日本語 (Japanese)

Learning Japanese using the Genki Textbooks and Anki App. Currently able to read and write ひらがな and カタカナ, learning 漢字.