Tanmay Sachan

EDUCATION

IIIT HYDERABAD
B.Tech and M.S. in Computer Science and Engineering
Hyderabad, Telangana
CGPA: 8.95/10.0

COURSEWORK

Data Structures and Algorithms
Software Programming for Performance
Operating Systems
Databases
Machine, Data and Learning
Natural Language Processing
Introduction to Information Security
Introduction to Quantum Computing

SKILLS

Over 10000 lines:
• Python • C++ • C
Over 1000 lines:
Rust • Bash • Go • Erlang
JavaScript
Familiar:
Haskell • Julia • Ruby • SQL

Libraries, Frameworks:
Pytorch • TensorFlow • Django • NLTK
OpenMP • CUDA • ReactJS

ACHIEVEMENTS

ACM-ICPC Regionals - 2018
Selected for the ACM-ICPC regionals, ranked 128 out of over 2000 participating teams.
IOI-TC - 2017,2018
Selected twice for the International Olympiad in Informatics(IOI) training camp, among top 30 school programmers in India.
DPS - 2018
Awarded Principal's Gold Medal for overall excellence in school.

POSITIONS HELD

Open Source Development Group (Admin), IIIT-H
Tasked with holding sessions on various topics relating to Open source and Software development.
Teaching Assistant, IIIT-H
Leading a research project on political leaning in text documents for a group of students.

PUBLICATIONS

September-2021
- "SCATE: Shared Cross Attention Transformer Encoders for Multi-Modal Fake News Detection" published at ASONAM 2021 (Hague, Netherlands).

RESEARCH

INFORMATION RETRIEVAL AND EXTRACTION LAB, IIIT-H
May-2020 - Present

Multi-Modal summarization (Publication under review at ACL 2022)
- Worked on improving cross-modal correspondence between images and text within news articles through semantic multimodal reranking.

June-2020 - July-2020
Covid-19 Data Analysis
- Worked on gathering and analysing code-mixed twitter data over the COVID-19 lockdown periods in India, drawing parallels between political affiliations within states and the sentiment of the people.

MILA - QUEBEC AI
May-2021 - July-2021

Multi-hop document reasoning
- Collaborated towards creating a more generalizable approach to question generation over text spanning multiple documents. Continuing the project under current advisors.

EXPERIENCE

SUBTL.AI | NLP Engineer
October-2021 - Current
- Working on improving semantic search over unstructured bank documents through state of the art NLP models and techniques.

DIGIBEINGS | Software Development Freelance
January-2020 - April-2020
- Worked on implementing and training a chatbot over custom data to recognize hints of depression.
- Created a full stack web application with ReactJS and Django for the deployment of the chatbot.

GOOGLE SUMMER OF CODE | Software Developer | Mentor
May-2019 - August-2019
- Worked on parallelising the test suite of the Xapian Search Engine Library, improving runtime by ~20%.
- Improved I/O profiling by implementing system call tracing.
- Handled sharding and concatenation of multiple remote databases.

May-2020 - August-2020
- Mentored and reviewed progress of contributors to Xapian under GSoC.

MAJOR PROJECTS

SEARCH ENGINE | Python
September-2020
- Implemented a search engine over the wikipedia dump with support for field based queries. Used SPIMI and BM-25 algorithms.

OS | Rust
June-2020
- Wrote a memory-safe operating system, supports interrupts and paging.