Snehal Reddy

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Academics

2017-2022	B.Tech + M.Tech (Dual Degree) in **Computer Science and Engineering, IIT Kharagpur**
GPA	**8.88**/10.0 (Ongoing)

Competitive Programming

- **Codeforces**: 2000+ , Candidate Master (snehal007)
- **Codechef**: 2100+ , 5 star (snehal007)

Experience

May 20 Jul 20	**Summer Intern: University of Cambridge**

- Worked on building software to the aid in the detection of depression. Worked extensively in designing and developing the visual pipeline and integrating it with audio and language pipelines.
- During development, followed the scrum framework extensively for the course the project. Collaborated in parallel with other teams in helping them deploy the software for public trials.

Jun 19 Jul 19	**Software Engineering Intern: Tata Consultancy Services**

- Built and tested software packages responsible for anomaly prediction in sequential networking logs. Followed the agile model for the software development life cycle framework.
- Worked in parallel with teams at the client side understanding their requirements and taking feedback on a periodic basis. The final package used Hidden Semi-Markov Model as a backbone for the prediction.

May 19 Aug 19	**Software Engineering Intern: Swae**

- Was actively involved in software testing life cycle finding flaws in the product, which is an intelligent decision-making platform combining anonymity, artificial and collective intelligence.
- Was also involved in building semantic analyzer, summarizer and other elements of the software stack, while simultaneously, taking into consideration alpha testing results from other teams.

Dec 19 Jan 20	**Winter Intern: LYTIQ GmbH**

- Worked on training, validating and deploying models in a pipelined fashion on Services such as Azure and KubeFlow.
- I was involved in setting up different pipelines for various use cases invloving secure learning procedures, wherein the dataset in use contained sensitive information and had to be protected from public eye.

Feb 18 Cur	**Software Team Head: Kharagpur Robosoccer Students' Group**

- We are responsible for building autonomous soccer-playing robots. I am currently the software team head of KRSSG. I have worked on Path planning algorithms, Multi agent strategy development and simulation and a lot of the software stack of our team for RoboCup . We are the only Indian team to participate in Robocup.

Projects

- **Software Fuzzing with Gradient based Smoothing: Prof. Suman Jana, Columbia University**
  Working on improving the American Fuzzy Lop styled software fuzzers. Gradient based evolutionary techniques are being employed so that fuzzer takes into account important factors resulting in better edge coverage with respect to the control flow graph. This is part of my ongoing Bachelor's Term Project.

- **AI Recommender Systems for Fashion Aesthetics : Prof. Shamik Sural, IIT Kharagpur**
  The project was aimed to making the process of fashion recommendation more smooth and automated. The project dealt with various vision models and clustering algorithms and I came with significant modifications to their architectures to aid our progress.

- **Cost-efficient and Advanced Remotely Controlled UAVs, Guide : Dr. Samanta, IIT Kharagpur**
  We proposed a crowd computing environment to execute the computationally intensive UAV software offline. I worked primarily on the path planning algorithms required for the UAV. The software stack gets surrounding input from the UAV sensors using a telemetry link, then the program provides surrounding status to the UAV to either to continue or stop in case of presence of any obstacle.

- **AutoEncoder with Feedback for Captcha breakdown: Prof. Shamik Sural, IIT Kharagpur**
  The project involved finding flaws in existing Captcha methods and finding alternatives to the current methods. I worked on AutoEncoder with symmetric feedback connections to help denoise the images to improve the accuracy of VGG trained to breakdown Captcha based on face emotion recognition on extremely noisy images.

Activities & Leadership

- Secured an All India Rank of **295** JEE Advanced of 1.2 million candidates nationwide
- Mentor of the project MedAI as a part of **Kharagpur Winter of Code**, which is a 5-week long online programme for students who are new to **open source** software development
- **Mentored** 100 sophomore students in **ML Winter School** in the winters of 2019. Over the course of a week, covered the basics of ML and neural networks.

Publications

- Published a paper titled "**Deep Learning rooted Potential piloted RRT* for expeditious Path Planning**" at International Conference of Artificial Intelligence and Robotics, Shenzhen, China 2019.