Chirag Soni

✉ chirag.soni9352@gmail.com   ☎ (+91) 820-905-3990   🌐 risenagain.github.io

EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, PATNA
B.TECH. IN COMPUTER SCIENCE AND ENGINEERING
CPI : 8.64/10.0
July 2014- May 2018

SKILLS

C, Java, Python, Javascript, SQL, Shell Script, Haskell, React, Angular

AWS (SQS, SNS, EC2, ECS, ECR, MediaTailor, CloudFront, S3, VPC)
GCP (DataFlow, BigQuery, Video Intelligence, Kubernetes, VMs, App Engine, Pub/Sub, Storage)

Linux, Git, Visual Studio, Intellij

Machine Learning, Deep Learning, Natural Language Processing, Genetic Algorithms, Tensorflow, Keras, Pandas, Scikit-learn

TEST SCORES

GRE - 328 (167 Q, 161 V, 4.0 AWA)
TOEFL - 108 (30R, 29L, 28W, 21S)

ACHIEVEMENTS

Won **1st** prize among 20 working demos and 120 ideas in Samsung for contextual advertisement demo.

Ranked among the **top 20** (in India) in **Google HashCode** competition.

Secured **All India Rank 2819** among **150,000** candidates in IIT-JEE Advanced and **All India Rank 8413** among **1,400,000** candidates in IIT-JEE Mains

Ranked **2nd** in District level in STSE

WORK EXPERIENCE

D. E. SHAW INDIA PVT. LTD., HYDERABAD

SENIOR MEMBER TECHNICAL, FRONT OFFICE	*Jul 2020 - Present*
MEMBER TECHNICAL, FRONT OFFICE	*Jul 2019 - Jul 2020*

- Developing the front-end of a progress reporting system from scratch in React. The system enables users to generate reports of their work and tracks time spent across various activities. Took a lead in making key design decisions for the front end architecture and was also involved in designing database schema. React Redux Thunk Normalizr Express Nodejs reselect immer
- Worked on a feature-rich proprietary issue-tracking cum workflow management product based on Java and Javascript. Developed diff functionality for HTML content. Fixed security vulnerabilities in the system like cross site scripting, SQL injection, etc. Hands-on experience with SQL Server. Debugged miscellaneous bugs in the system reported by users. Java SQL Server T-SQL Javascript Closure Templates

SAMSUNG RESEARCH INSTITUTE, DELHI

SOFTWARE ENGINEER, SERVER TEAM	*Jul 2018 - Jul 2019*

- Worked on a **highly scalable** distributed log analysis pipeline (ETL) processing billions of logs (~6TB) per day from multiple CDN vendors for OLAP purposes. Apache Beam Big Query Cloud DataFlow Java ETL OLAP
- Developed front-end for admin portal of CDN service. Angular
- Worked on a unified portal for automatic deployment of microservices of Samsung's Smart TV services. Microservice Architecture Docker AWS(ECS) Shell Script Java Spring Boot Jenkins
- Built a system from scratch to serve contextual ads in videos, i.e. ads based on what's going on in the content video. Also wrote an algorithm for timing when to render the ad without hampering user experience. Won best idea implementation award among 20 working demos. Angular Computer Vision Deep Learning Media Tailor VAST VMAP HLS Python Flask

INTERNSHIPS

INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE, TAIWAN

SUMMER RESEARCH INTERN, ICL LAB	*May 2017 - July 2017*

- Under Dr. Tzi-Cker Chiueh's guidance, I did extensive literature survey on the topic of **Secure Multi Party Computation (SMPC)** Cryptography
- Developed programs on a practical SMPC framework called ObliVM. SMPC is still an open problem for research and ObliVM is an open source framework to solve it under practical constraints.
- Analyzed time complexities of different Oblivious RAM models. Oblivious RAM is a wrapper over actual RAM to hide data access patterns to make computation oblivious for any adversary.
- Demonstrated feasible use of ObliVM for business application by computing market trends while remaining oblivious to different datasets.

RELEVANT COURSEWORK

Algorithms
Artificial Intelligence
Natural Language Processing
Deep Learning
Probability Theory and Random Processes
Formal Language and Automata
Programming Language
Theory of Computation
Cryptography
Compilers
Computer Graphics
Computer Networks
Computer Organization & Architecture
Data Communications
Databases
Digital Design
Discrete Mathematics
Hardware Laboratory
Operating Systems
Software Engineering
Systems Programming Laboratory
OOP and Data Structures
Introduction to Computing

STOCHASTIC SOLUTIONS PVT. LTD, GURGAON
SUMMER INTERN, WEB DEVELOPMENT   *May 2016 - July 2016*

- Developed a crowdsourcing educational website ScholarGraph.com from scratch featuring college comparison and question-answer platform. PHP MySQL Google Polymer jQuery CodeIgniter Google Cloud Platform
- Exceeded expectations and was awarded a **spot bonus**.

PUBLICATIONS

"Automatic Evolution of Bi-clusters from Microarray Data using Self-Organized Multi-objective Evolutionary Algorithm"
Applied Intelligence Journal 2019
Naveen Saini, Sriparna Saha, **Chirag Soni**, Pushpak Bhattacharyya
DOI: 10.1007/s10489-019-01554-w
http://link.springer.com/article/10.1007/s10489-019-01554-w

PROJECTS

"Automatic Evolution of Bi-clusters from Microarray Data using Self-Organized Multi-objective Evolutionary Algorithm"
IIT Patna | Jan 2018 - May 2018
To find which genes are co-regulated by what set of conditions in microarray data, I implemented a **deep learning model to find the coherent biclusters** using self-organized maps and optimized multiple objective functions simultaneously. Used two different microarray datasets and optimized quality of biclusters on 3 different metrics. Published a research journal on the same..

"SMS Classification for Smart Assistance"
LG Electronics Inc., IIT Patna | July 2017 - Dec 2017
I was involved in a NLP project developing a machine learning based SMS classifier for smart assistance. The classifier was an ensemble of SVM, logistic regression and random forest and was trained on an in-house dataset annotated by LG. **Achieved better accuracy than state of the art model** on the same dataset.

"Bone Age Detection from X-Ray"
IIT Patna | Jan 2018 - April 2018
Radiologists manually find the skeleton age and compare it with the baby's actual age ensuring normal growth. Deep learning model developed here predicted the skeleton age of the child by analyzing X-Ray images of the hand. Developed a CNN model on top of InceptionV3 and tested if taking gender as a parameter improves accuracy. Achieved an accuracy close to the top models in the RSNA challenge.

"Machine Translation"
IIT Patna | Jan 2017 - April 2017
Independent study under Dr. Asif Ekbal
Investigated a hybrid model for machine translation following rule-based and statistical approach to translation. Implemented a corpus translator with the help of Google and Bing translator. Also worked on a dependency parser for Hindi.

"Hostel Affairs : A voting based issue tracking platform"
IIT Patna | Jan 2016 - April 2016
Developed a web app to track issues with voting enabled for student voices to be heard on pressing issues. Implemented smart search - filter - tagging algorithms for issue listings, lost & found, room allocation. Implemented login accounts, commenting features. Used Google polymer, PHP, MySQL.