Chumki Acharya

📞 +1 (631) 627-0563 ◇ ✉ chumkiacharya17@gmail.com

 chumki17 ◇ in chumki-acharya

EDUCATION

- **State University of New York at Stony Brook - NY, USA** Aug 2019 - Dec 2020
  Master of Science in Computer Science; GPA: 3.42/4.0
- **National Institute of Technology Agartala, India** Aug 2011 - May 2015
  Bachelor of Technology in Computer Science; GPA: 8.1/10.0

PROGRAMMING SKILLS AND COURSEWORK

- **Programming Languages:** Java, Python, C++, SQL/NoSQL, JavaScript, HTML, CSS.
- **Technologies and Frameworks:** Restful Web Services, LTE, VOLTE, SIP, Diameter, WebSocket, Kafka, Redis, Elastic Search, HTTP2, TCP/IP, Wireshark, DB2, MySQL, Hadoop, Apache Spark, Pandas, NumPy, Scikit-Learn, AWS
- **Courses:** Machine Learning, Artificial Intelligence, Data Visualization, Theory of Database Systems, Fundamentals of Data Science, Analysis of algorithms

EXPERIENCE

Reliance Jio Infocomm Ltd, Mumbai, India June 2015 - July 2019
Senior Software Engineer

- ***PCRF and PCF Microservices :*** Developed HSI Barring and Call Barring modules. Implemented NB-IoT communication interface over Diameter Stack Protocol. Architected the solution to provide Geo-Redundancy. Worked on scaling and deployment of the application across India. Saved $1 Million for the organization by not opting for 3rd party solutions
- ***PCRF Load Balancer :*** Architected a load balancer to distribute the requests coming on Diameter interfaces to multiple PCRFs. Performed load testing and benchmarked the maximum capacity.
- ***Diameter Protocol Stack :*** Devised and implemented Command Line and Packet Flow modules of the in-house diameter protocol stack. Created message encoders and simulators for various interfaces of Diameter.
- ***Network Function Virtualization SDN :*** Created a Data Modelling Framework for parsing network specific JSON & XML files and integrated it with different micro-services offered under our system.

National Institute of Science and Technology, Bhubaneshwar, India May 2014 - July 2014
Software Engineering Intern

- ***Analysis of Link-Based Ranking Algorithms :*** Implemented PageRank vector for PageRank algorithm. Developed metrics to calculate the efficiency of different algorithms. Reduced memory utilization of Page Rank algorithm by compressing Sparse Matrices.

PROJECTS

- **World Development Indicators Data Visualization:** Implemented a Dashboard to visualize World Development Indicators data - Population, GDP, Employment, Literacy to aid in the analysis the overall development of a country.
- **Sleeping Pattern Analysis:** Analyzed Twitter users' Tweets and Geo-location data for detecting variance in sleeping pattern depending on environmental factors and also discovering automated Twitter bots.
- **Visual Analytics Tool for Cardio-respiratory data:** Implemented CaRisMa algorithm to develop a Visual Analytics Tool to recommend the right exercise with inputs from ECG, Heart Rate, Breathing Rate, Resting Rate.
- **Authenticated Vehicle Parking System:** Designed and implemented an automated system to prevent theft of vehicles from parking lots using Image Processing

RESEARCH PUBLICATIONS

- **Authenticated Vehicle Parking System by the Method of Number Plate Recognition and Iris Pattern Matching of The Driver of that Particular Vehicle** Proceedings of International Conference on Electrical, Electronics, Signal, Communication and Optimization (EESCO), ISBN 978-1-4799-7676-8
- **An Efficient Way to Determine the Chromatic Number of a Graph Directly from its Input Realizable Sequence** Proceedings of the Third International Symposium on Women in Computing and Informatics, ACM Digital Library.

HONORS AND ACCOMPLISHMENTS

- **Scholarship :** Awarded the Centre for Cultural Resources and Training (CCRT) Scholarship on Visual Art
- **Leadership:** Mentored and trained new employees at Reliance Jio.