

Saurabh Raut

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EDUCATION

University of Pennsylvania (UPenn) <i>Master of Science in Engineering - Computer and Information Science</i>	Philadelphia, USA May 2023
Veermata Jijabai Technological Institute (VJTI) <i>Bachelor of Technology in Computer and Information Science</i>	Mumbai, India May 2021

INTERNSHIPS

Amazon Music (Software Development Engineer) <ul style="list-style-type: none">Designed, implemented and deployed a caching framework for Amazon Music's 3P evaluation frameworkExtensively used CDK and AWS tools like Lambda, S3, SQS and DynamoDB for implementing the cache	May 2022 – August 2022
Barclays Investment Bank (Software Development Engineer) <ul style="list-style-type: none">Automated testing of Barclays trade application - BATMAN by using Barclays Automation Test Harness System(BATHS) and testNG framework	June 2020 – July 2020
Silicon Veins (Software Development Engineer) <ul style="list-style-type: none">Built custom Share View replacing the built-in android chooser for BizAnalyst android app. This feature lets users directly share ledgers to mobile numbers through Whatsapp without saving the number in their contactsSet up passcode activity, floating action button and other UI related features for the app	May 2019 – June 2019

SELECTED PROJECTS

Penn Search - Distributed Search Engine <i>Java, AWS tools</i> <ul style="list-style-type: none">Built a completely distributed search engine consisting of Web Crawler, Indexer, Page Ranker, & an interactive UICrawled more than 1 million web pages using StormLite, a lightweight version of Apache Storm, running on EC2 instances. SQS was used as a crawl frontier and the crawled pages were stored in a S3 bucketIndexed and ranked the crawled pages as Hadoop MapReduce tasks and handled search queries from user using self-built version of Apache Spark	April 2022 – May 2022
Penn Cloud <i>C++, HTML, CSS</i> <ul style="list-style-type: none">Built a cloud platform that supports web-mail service and storage service analogous to Gmail and Google DriveStorage was based on distributed key-value store (similar to Bigtable) and factors like load balancing, fault tolerance, replication, consistency were taken into consideration as well	Nov 2021 – Dec 2021
Chat Server <i>C++</i> <ul style="list-style-type: none">Built a replicated chat server that uses User Datagram Protocol (UDP) to multicast chat messagesThe server supports three different ordering modes: unordered, FIFO, and total ordered multicast	Oct 2021 - Nov 2021
Emotion Analysis of Movie Characters <i>Scikit-learn, PyTorch, Pandas</i> <ul style="list-style-type: none">Performed scene wise emotion analysis of movie characters based on their dialogues in the scriptTrained and tested a few linear and non-linear models and found that a simple MLP (Multi-Layer Perceptron) model with BERT embeddings generated best results	Nov 2021 - Dec 2021
Content Labelling of Hidden Services <i>Gensim, NetworkX</i> <ul style="list-style-type: none">Classified the darknet data into topics using two different approaches - Topic Modelling and Graph of WordsCo-authored a peer-reviewed paper that was published in Dark Web Pattern Recognition and Crime Analysis Using Machine Intelligence - IGI Global	Jan 2021 – May 2021

RELEVANT COURSEWORK

Software Systems, Internet and Web Systems, Applied Machine Learning, Principles of Deep Learning, Natural Language Processing, Linear Algebra and Optimization, Database and Information Systems, Analysis of Algorithms, Engineering Negotiation, Data Structures & Algorithms, Discrete mathematics

TECHNICAL SKILLS

Languages: Java, C/C++, Python, TypeScript, SQL, Latex
Frameworks & Software: MongoDB, Neo4j, TestNG, Scikit-learn, Numpy, Pandas, Hadoop MapReduce, Apache Spark
Development Tools: CDK, AWS (RDS, DynamoDB, S3, SQS, EC2, Lambda), Android Studio, Git