ROHIT MOHANTY

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Summary: Masters in Computer Science student with focus and demonstrated experience in C++, Python, JavaScript and Machine Learning. Hands-on working experience in designing, developing and debugging large scale web applications using NodeJS and AWS.

Work Experience

Cumulus Digital Systems, MA, USA — **Software Development Intern** — May 2022 – Aug 2022

Timeseries Performance Boosting
Highlights: Improved the performance of critical client-facing applications by implementing suitable data-structures and using AWS Timestream.
Technologies Used: NodeJS, JavaScript, AWS Timestream, AWS DynamoDB, TypeScript, Flow, Serverless, AWS Lambda, Jest, ESLint
Roles and Responsibilities:
- Improved performance of critical applications by 70% by using multi-measure records in AWS Timestream to enhance the write & query speeds.
- Implemented a segment tree-based data structure to utilize the timeseries structure of the data and improved the performance of certain queries.
- Used AWS Lambda and serverless framework to deploy critical backend services to AWS CodePipeline.
- Implemented critical testing packages using Jest for unit testing and integration testing of the code.

Column Name Matching and Generation
Highlights: Implemented an NLP solution for matching and generating company-based column names for user-defined column names.
Technologies Used: Natural Language Processing, Generative AI, Seq2Seq, Transformers, NumPy, Pandas, TensorFlow, Keras
Roles and Responsibilities:
- Used semantic information from current company-based and user -defined column names to generate new column names.
- Implemented a Seq2Seq model using a multi-headed attention-based transformer to generate new company-based column names.
- Used semantic & contextual information from data in columns to derive stronger latent representations for the column names in the model.

Dell, India — **Software Development Engineer** — July 2017 – Sept 2019

Highlights: Worked for the Dell Federal Business Enablement Team that enables the end-to-end fulfilment of orders for US Federal Government.
Achievements: Dell Champions Award
Technologies Used: Python, Pivotal Cloud Foundry, React, C#, .Net, NodeJS, SOA
Roles and Responsibilities:
- Improved performance of middleware by 84% by implementing critical SOA services in Python and migrating them to Pivotal Cloud Foundry.
- Built the framework for automation & analytics of Siebel CRM migration activities using React and NodeJS and deployed it to PCF.

Academic Projects

DMAlloc – Dynamic Memory Allocator
Technologies Used: C++, Memory Management, Smart Pointers
Built a wrapper around the heap memory allocator and de-allocator functions like malloc and free to check for and avoid memory leaks in a program

Distributed Store
Technologies Used: C++, Distributed Systems, Sharding, Multi-Threading, Concurrency
Built distributed key-value store with a dynamic shard-master and multi-threaded, low level optimized architecture using advanced C++ concepts.

Blogging Website
Technologies Used: Python-Flask, OAuth, SQLAlchemy, HTML5, CSS, JavaScript
Used Python to build a website with the functionality to register new users where multiple users can login and create, delete and update blog posts.

Loglizer (Log Anomaly Detection Framework)
Technologies Used: Natural Language Processing (NLP), Deep Learning, Python, TensorFlow, Keras, Variational Autoencoders, LSTM, GAN, CNN
Built a framework to process and detect anomalies in log files generated by large scale distributed systems using deep learning and NLP models.

Photo-Realistic Super Resolution
Technologies Used: Deep Learning, Python, TensorFlow, Keras, GAN, NumPy, SRMAP
Surpassed the performance of traditional deterministic super-resolution methods by proposing a novel Super Resolution MAP generative method.

Technical Skills

Languages	C++, Python, C, JavaScript, Java, Shell script	**Libraries**	React, Scikit-learn, TensorFlow, Keras, PyTorch
Cloud	AWS Lambda, Pivotal Cloud Foundry, Serverless	**Databases**	DynamoDB, AWS Timestream, MongoDB

Academics

Master of Science (ScM) in Computer Science at Brown University, RI — Aug 2021 - May 2023
Bachelor of Technology in Electrical and Electronics Engineering at IIIT Bhubaneswar, India — Aug 2013 - June 2017

Leadership and Extracurriculars

- Worked at a government-funded NGO focused on the welfare of less fortunate children suffering from neurological illness in tribal regions.
- Led a team to organize multiple health camps and dental camps in tribal regions in India.