Ishan Meher
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EDUCATION

California Polytechnic State University San Luis Obispo (**Calpoly SLO**), San Luis Obispo, CA — Graduation Date: **June 2025**
Bachelor of Engineering: **Computer Science** — **GPA: 3.78**
Relevant Coursework: Deep Learning, Artificial Intelligence, Systems Programming, Data Structures and Algorithms, Object Oriented Programming (Java, C++), Databases (SQL), Operating Systems, Distributed Computing, Software Engineering

SKILLS

Programming Languages: Java, Python, JavaScript, SQL, TypeScript, C, C++, HTML, CSS
Frameworks/Libraries: Node.js, Express.js, React.js, Vue.js, Pytorch, FASTAPI, Spark, MongoDB
Programs/Tools: AWS (Lambda, DynamoDB, S3, Amplify, Api Gateway, SQS, Athena, Glue), Git, GitHub, Jupyter Notebooks

EXPERIENCE

Calpoly SLO, Undergraduate Student Researcher (San Luis Obispo, CA) — **Oct. 2023 - Present**
- NLP Research to diagnose chronic pain using Apache Spark with state-of-art NLP algorithms to construct knowledge graph.
- Used PFN Relation Extraction NLP algorithm to perform Co-Reference Resolution of Spark pipeline to improve knowledge graph by extracting textual relations from research papers.

Calpoly SLO CS & AI Club, Engagement Officer (San Luis Obispo, CA) — **May 2023-Present**
- Collaborated with a team of 9 officers to increase club membership from 15 members to 70 active members.
- Presented hands-on workshops on Machine Learning Model Deployment, Version Control with Git/GitHub.

Amazon Web Services (AWS), Software Developer Engineer Intern (Palo Alto, CA) — **Jun. 2023-Sept. 2023**
- Developed an automation application to streamline dashboard investigations of anomaly events in AWS Fully Managed Kafka Service (AWS MSK) monitoring 5-10 anomaly states of 42 API's across 36 AWS regions to pinpoint sources of anomaly for investigations conducted by on-call employees.
- Reduced dashboard investigation process from 3 hours to 20 minutes, allowing on-calls to have more time to fix customer tickets.
- Implemented a Java AWS Lambda function with batched processing (AWS SQS) to conduct in-depth investigations of CloudWatch error logs to retrieve relevant data pertaining to each anomaly type.
- Stored Investigation results in an S3 bucket and defined AWS Athena SQL tables for each anomaly type.
- Created a runbook of SQL queries, enabling on-call employees to perform data analysis and investigations.
- Implemented a weekly AWS Glue job script with Python and Spark SQL to generate weekly investigation email reports with Amazon Simple Email Service (SES), providing further actionable insights to on-call employees.

Lawrence Livermore National Laboratory, Software Engineering Intern (Livermore, CA) — **May 2022-Aug. 2022**
- Designed and implemented internal Python package to automate weekly synchronization of data composed of 500,000 records from unclassified to classified instance.
- Optimized data migration process resulting in data migration time being reduced from 2 hours to 15 minutes by leveraging multithreading**,** allowing employees to have more time to fix customer tickets.
- Contributed to data archive codebase by developing new features, RESTful API endpoints, unit and integration tests, bug fixes and reviewing code of 8 team members.
- Participated in Agile development process consisting of weekly Scrum and Sprint and reviewed employee tickets.

Glocol Networks, Software Engineering Intern (Sacramento, CA) — **Dec. 2021-May 2022**
- Object detection of bicycles on trains using the yolov5 object detection algorithm with Intel OpenVino for Raspberry Pi devices with Intel NCS2 VPU hardware allowing Amtrak to gain insights into bicycle use of ridership.
- Implemented AWS Lambda function to receive batched bike count readings from AWS API Gateway and recorded results in AWS DynamoDB.
- Created a web application to schedule train occupancy count scanning with AWS Amplify, Vue.js and DynamoDB resulting in 20% cost reduction of AWS cloud resources in comparison to prior process.

American River College, Software Engineering Intern (Sacramento, CA) — **Aug. 2021-May 2022**
- Developed web application for Sutter's Fort Cemetery to allow public to access historical archival records.
- Implemented two-factor user authentication for staff to add/update records.
- Conducted data analysis, utilizing pandas to clean and validate archival datasets comprising of over 20,000 entries.
- Implemented frontend in React.js and backend in Node.js (Express) with MySQL database of cleaned datasets.

PROJECTS

Genetic Algorithms Robots
- Implemented a genetic algorithm to simulate natural selection in C++ of 10,000 robots.
- Encoded robots with genes (random/inherited) that decide path taken during lifespan.
- Used number of food items consumed as heuristic to decide best robots.