ABHISHEK SANTOSH REVADEKAR

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EDUCATION

STONY BROOK UNIVERSITY Stony Brook, New York
Master of Science in Computer Science | Cumulative GPA: 3.57/4.00 **Expected Dec. 2023**
Coursework: Introduction to Computer Vision, Natural Language Processing, Probability & Statistics, Operating Systems.

UNIVERSITY OF MUMBAI Mumbai, India
Bachelor of Technology in Computer Engineering | Cumulative GPA: 9.12/10.00 **May 2021**
Coursework: Data Structures & Algorithms, Big Data Analytics, Decision Making and Business Intelligence, Software Engineering.

TECHNICAL SKILLS

Languages/Frameworks: Java, Python, C/C++, JavaScript, HTML, CSS, React, Angular, Django, Swift, Scala, Shell scripting.
Databases & ETL Tools: SQL, MongoDB, Cassandra, PostgreSQL, Hadoop, Apache Kafka, PySpark, WEKA.
Machine Learning: Tensorflow, Keras, PyTorch, OpenCV, Pandas, NumPy, Matplotlib, CUDA.
Development Tools: Agile, Scrum, JIRA, Git, Linux, Anaconda, Docker, Kubernetes.

WORK EXPERIENCE

STONY BROOK UNIVERSITY Stony Brook, New York
Graduate Research Assistant - HCI (Advisors: Prof. Fusheng Wang, Prof. Xiaojun Bi) **Jan. 2023 – Aug. 2023**

- Independent research in phrase-level gesture decoding using machine learning, and eye-tracking calibration on iOS.
- Trained a PyTorch model, leveraging distributed computing with multiple GPU-enabled servers, for gesture typing for phrases using a BERT-based encoder-decoder network and a custom dataset with over 5 million gesture simulations.
- Upgraded eye-tracking calibration using Homography in the EyeCanDo iOS app by 15% in coverage and accuracy.

BNP PARIBAS Mumbai, India
Software Engineer – Liquidity Management Team **Jun. 2021 – Jun. 2022**

- Led critical feature update for On-demand Cash Pooling involving lending and borrowing limit constraints, leveraging Java-Spring Boot, SQL, Angular and UNIX jobs and increasing client satisfaction by 30%.
- Automated client report generation, cutting manual effort by 50% and improving delivery time by 35%.
- Streamlined communication and planned 2022 roadmaps for multiple cash pooling projects in China, reducing misalignment.
- Provided Level 3 support, resolving data patch requests within 1 hour on average and circumventing production failures.

Software Development Intern – ATLAS2 Design and Development Team **Jan. 2021 – Jun. 2021**

- Developed Java-based data handling APIs and migration scripts for 400+ parameter tables in the JGestab application.
- Improved business rule logic in JGestab parameterization tool by analyzing COBOL code, reducing errors by 20%
- Implemented an automated testing script using Selenium-Java to evaluate business rule logic, increasing testing efficiency by 30% and identifying fail cases promptly.

UNIVERSITY PROJECTS

DataSurge: A Distributed, Real-Time Data Pipeline **July 2023 – Present**

- Engineered a modular distributed real-time data pipeline, using Java-Spring Boot, Apache Kafka, Docker and Kubernetes.
- Orchestrated seamless integration of diverse data sources and flexible data model configuration, utilizing separate Kafka topics for scalability and low-latency streaming of 400 events per second and a data load of around 3 GBs per day.

NeuroLogic Decoding using a subset of LTL semantics **Sep. 2022 – Dec. 2022**

- Augmented the natural language generation model by integrating Linear Temporal semantics into the Seq2Seq and beam search algorithm, inspired by Ximing Lu et al. 's NeuroLogic Decoding paper.
- Conducted a rigorous performance evaluation using BLEU scores, resulting in a significant 18% improvement in language generation compared to the implementation in the paper.
- Introduced a novel order score metric alongside coverage score to validate keyword presence and sequential arrangement, resulting in an 11% coverage improvement and 24% order improvement compared to the paper's implementation.

Detecting attention in students based on body posture **Dec. 2020 – Mar. 2021**

- Designed and implemented a robust attention detection model utilizing upper body posture analysis in an e-learning environment, achieving an impressive accuracy of 92% for identifying the five most prevalent postures when using a laptop..
- Curated a comprehensive dataset of more than 20,000 video frames from student peers, leveraging OpenPose for accurate keypoint extraction and posture analysis.
- Pioneered a groundbreaking Frame Average Sampling technique, engineered to mitigate outliers within a 1-second window for videos captured at a rate of 30 frames per second (fps).

KEY ACCOMPLISHMENTS

- **Publications:** 5 research papers in Machine Learning space (42 citations). Google Scholar: tinyurl.com/AbhiR-GScholar.
- **Awards:** "Best Paper" award for "Pothole Detection using Accelerometer and Computer Vision" at ICPSC conference, May 2021; "Best Paper Presentation" award for "Bidirectional Sign Language Translation" at ICCICT 2021 conference, June 2021.