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Snehith Nayak

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EDUCATION

University of California Santa Barbara | *B.S. Computer Engineering* | *GPA: 3.4* Graduating: Jun 2024

WORK EXPERIENCE

KLA | *Machine Learning Engineer Intern - BBP* | Python, Java, ML Milpitas, CA | June-Sept 2023

- Developed machine-learning autoencoder for BBP Nuisance Filtering, reducing cluster count by 30% in IBM CAD and Samsung GMK dataset compared to DBG2 (Current Design Based Grouping Implementation).
- Engineered an advanced, adaptable framework using convolutional layers, optimizing defect detection and classification across multiple datasets, specialized by training with unlabeled BBP hotspot images.
- Utilized HDBSCAN for efficient clustering of latent features, validated by silhouette scores.
- Established benchmarking with Jaccard score for effective comparison of DBG classification techniques.

Synopsys | *Application Development Intern* | Java, SQL, Data Processing Santa Clara, CA | June-Sept 2022

- Enhanced cross-functional integration and data synchronization between finance, payroll, and ERP systems by creating a unified data model ensuring consistent data processing and exchange.
- Automated contractor onboarding process saving 2,200 employee hours annually, improving system efficiency for over 2,000 users using Python and Java.

PROJECT EXPERIENCE

Health Monitoring Wearable – Capstone | Python, C, Java Nov 2023-June 2024

- Designing a specialized health monitoring wearable for nursing home residents, focusing on comprehensive remote monitoring and enhanced data accuracy.
- Incorporated advanced sensors in the wearable for vital signs, activity tracking, temperature monitoring, ambient noise detection, and continuous heart rate and oxygen level measurement.
- Engineered a data-efficient Android app for real-time health data visualization and trend analysis.
- Achieved effective component integration and data transmission, with plans for advanced PCB design and algorithm development.

Chromatic Tuner FPGA Development | C, C++, Embedded Systems, FPGA development Jan 2023

- Engineered a tuner for precise musical note identification using optimized FFT for guitar tuning.
- Built a user-friendly GUI with interactive peripherals on a QP-nano State Machine.
- Enhanced FFT code for sub-30ms results with optimized lookup tables and hash-maps.
- Implemented a speaker for robust frequency detection across a wide range (65-4500 Hz).

Deep Learning Emotion Recognition | Python, MATLAB Mar 2022

- Developed a CNN-based emotion recognition system using PyTorch, achieving 82% accuracy in identifying 7 distinct human emotions from facial expressions.
- Crafted an intuitive MATLAB GUI and enriched the training dataset through web scraping.

SKILLS

Programming Languages: Python, C++, C

Tools & Platforms: PyTorch, TensorFlow, AWS, Firebase, Boomi, Git, VS Code

Certifications

Neural Networks and Deep Learning | *deeplearning.ai* Jan 2022

Boomi Developer Certification | *Boomi Education* Aug 2022