Ashish H

ECE(Major) | CSE(Minor)
Majors in Electronics and Communication
Minors in Computer Science
PES University, RR Campus

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Education

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech. (ECE Major)	PES University, RR Campus	8.96	2019-2023
B.Tech. (CSE Minor)	PES University, RR Campus	9.00	2019-2023

Key Courses Taken

- Data Structures, Algorithms, Machine Learning, Artificial Intelligence, Operating System, Image Processing and Computer Vision, Pattern Recognition, Artificial Neural Networks, Cryptography, Signals and Processing Systems, DVLSI, Analog Circuit Design, Advanced Computer Networks, Database Management Systems, Programming in Java, Backend Development using Springboot and Lombok

Experience

- **Egnyte** *July 2023- Present*
  Software Engineer Remote
  – Architected and engineered an AI-powered Knowledge Based Assistant using Langchain, LLMs, and Java Spring Boot, driving 40% reduction in response latency and establishing a key revenue-generating USP that contributed to significant ARR growth for Egnyte's Cloud File System; secured first place in Egnyte Hackathon 2024 for innovative AI implementation that demonstrated product differentiation potential
  – Spearheaded end-to-end development of Egnyte Global Copilot and customer-facing AI features using React and Spring Boot, implementing scalable REST APIs and comprehensive testing frameworks that enabled enterprise-grade document processing while maintaining 95% test coverage across frontend and backend services

- **Egnyte** *January 2023-June 2023*
  Software Engineer Intern Remote
  – Contributed to the initial integration of GPT-powered AI capabilities within the Egnyte platform, developing core services using Java Spring Boot and React while maintaining high code quality through automated testing
  – Engineered performance optimizations for AI features through strategic caching and system design improvements, reducing response latency by 40% across Knowledge Based Assistant and Ask Feature services

- **Indian Institute of Science** *June 2022-Aug 2022*
  Research Intern Bangalore
  – Implemented precise point-to-point autonomous navigation for a warehouse robot using ROS, SLAM (GMapping), and developed a novel QR code-based localization system to overcome wheel slip issues and achieve accurate positioning.
  – Integrated multiple sensors (RPLidar A3, Intel RealSense D435i, WIT IMU) with ROS for environment mapping and obstacle detection, enabling autonomous navigation with the DWA (Dynamic Window Approach) planner for efficient path planning.

Publications

- **"Low Resource Speech-to-Speech Translation of English videos to Kannada with Lip-Synchronization"** IEEE Xplore, ICICCS-2023
- **"Non-sequential Indexing of Videos using Linguistic Computation"** IEEE Xplore, ICACRS-2022
- **"Estimation of Engagement of Learners in MOOCs using Smart Visual Processing"** Elsevier Series, ICDAM 2021

Projects

- **Low Resource Speech-to-Speech Translation of English videos to Kannada with Lip-Synchronization** *ICICCS-2023*
  Capstone Project Publication
  – Developed a pioneering English-to-Kannada video dubbing system with synchronized lip movements, achieving a user experience MOS of 4.56. Implemented cross-lingual voice cloning using Assembly AI and Google Translate API, outperforming baseline models with MOS scores of 4.48 for accent and 4.94 for audio quality.

- **Non-sequential Indexing of Videos using Linguistic Computation** *ICACRS-2022*
  Dr. Mamatha HR, PES University Publication
  – Developed a novel non-sequential video navigation system incorporating NLP and OCR to automatically extract key topics from educational lecture videos. Implemented an innovative audio-indexing algorithm to generate anticipatory timestamps, achieving -2 second prediction tolerance and up to 100% recall rate.

- **Estimation of Engagement of Learners in MOOCs using Smart Visual Processing** *ICDAM 2021*
  Parallel Systems Research Laboratary, PES University Publication
  – Designed and implemented an anti-spoofing mechanism with mathematical scoring formula, achieving 97.8% accuracy in attention monitoring, and successfully deployed across multiple MOOC platforms to improve course assessment metrics.

- **MultiLingAV: A Neural Framework for Cross-Lingual Video Dubbing for Low-Resource Languages** *February 2022*
  PES University Github
  – Developed an automated English-to-Kannada video dubbing system using speech recognition and NLP techniques, implementing keyword extraction algorithms to generate timestamped topic markers from the translated content, enhancing accessibility of educational content for Kannada speakers.

- **SemDist: Automated Generation of Plausible Distractors in Programming Assessments** *May 2021- December 2021*
  Dr. NS Kumar, PES University Github
  – Engineered an intelligent distractor generation system for Python coding MCQs using abstract syntax trees and semantic analysis, implementing algorithms to generate syntactically valid but conceptually incorrect options, achieving 85% acceptance rate of generated distractors by subject matter experts.

- **AutoText: Intelligent Content Synthesis for Dynamic Educational Resource Generation** *Feb 2022 - March 2020*
  PES University Documentation
  – Architected a dynamic textbook generation system utilizing web scraping and NLP, implementing text summarization algorithms and content aggregation from authoritative sources to automatically compile topic-specific educational materials based on user input.

- **Portfolio website using Django Framework** *Jan 2020 - Feb 2020*
  I/O Course, PES University Drive
  – Designed and implemented a responsive portfolio website using Django framework, incorporating user authentication, dynamic content management, custom alert systems, and RESTful API endpoints for seamless navigation and content updates.

Technical Skills

- **Programming:** C/C++, Python, Java, Javascript, Typescript, SQL
- **Libraries/Frameworks:** Pandas, NumPy, scikit-learn, Tensorflow, Pytorch, Matplotlib, OpenCV, LangChain, RAG (Retrieval Augmented Generation), Spring, Spring Boot, Microservices, Socket Programming, Django, MySQL, React, WDIO, Jest, Webpack, Flutter, JUnit5, Mockito, Unit Testing, Functional Testing
- **Tools & Platforms:** Git, Jenkins CI/CD, Docker, Linux, Shell Scripting, Google Cloud Platform, Kibana, Jetson, Mentor Graphics, Wireshark, Jupyter, NPM, Maven, LaTeX
- **Web Technologies:** HTML, CSS, Javascript
- **Development Methodologies:** Agile Methodology, REST API Design, Version Control, Microservices Architecture

Positions of Responsibility

- **Core organizer for Idea Loop Hackathon** Community of Data Science, PES University *2021*
- **Machine Learning Core Team Member** Community of Data Science, PES University *Apr. 2020 - Apr. 2022*

Achievements

- **5x M.R.D Scholarship Awardee at PES University** Awarded to top 20% of the students on the basis of thier Grade Point Average *2019-2021*
- **Awarded 1st Runner up and secured a cash prize of 25,000** HashCode-2K21 organized by Microsoft Innovation Lab *2022*
- **1 among the top 8 finalists** Dotslash Hackathon *2022*
- **1 among 10 finalists** NMIT Hacks Hackathon *2021*
- **Ranked amongst top 6 (99.04%) out of 8.5 lakh students in Karnataka** SSLC Examination *2017*
- **Best outgoing student consecutively for 2 years at high school** *2015-2017*