

HARSHAVARDHANA MUDDULURU

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CORE SKILLS

- **Technical Skills:** Python, Java, C, C++, HTML/ CSS, JavaScript, TypeScript, React.js, Node.js, Material UI, Bootstrap, Express.js
- **Version Control:** Git, GitHub-Actions
- **Agile & Collaboration :** Agile methodology, JIRA, Microsoft 365, SharePoint Online, Lucid, Power Apps
- **Data Science & Machine Learning:**
 - **Libraries & Tools:** NumPy, Pandas, Scikit-Learn, OpenCV, Matplotlib
 - **Machine Learning Frameworks:** Keras, TensorFlow, PyTorch
 - **Techniques:** Predictive Analysis, Deep Learning
- **Data Engineering & Database management:** MySQL, PostgreSQL, ETL process, Data Mining & Processing
- **Visualization & Reporting:** Microsoft Power BI, Tableau, Microsoft Excel (Advance)
- **Cloud & DevOps:** Docker, Kubernetes, Maven, Gradle, AWS, Apache Tomcat, Azure
- **Testing:** JUnit, JMeter, Postman, Cypress, Selenium
- **Soft skills:** Innovative, Communication, Teamwork, Committed, Analytical, Prioritization, Flexible, statistical, Problem-solving, Time Management, Cross-Functional

WORK EXPERIENCE

- **Business Analyst Intern – Vosyn, Toronto** *Jan 2025 – Present*
 - **Developed Lean Canvas Model:** Conducted market analysis & competitive benchmarking to identify core business problems, proposed quantum-inspired solutions & **define unique value propositions** for VosynCore's multilingual, multimodal platform.
 - **Led cross-functional pod** focused on developing key product functionalities, **ensuring alignment with business goals &** technical feasibility. Collaborated across multiple pods streamlining development efforts, improve inter-team communication, & accelerate project timelines.
 - Facilitated cross-team & stakeholder meetings, **converting high-level business goals into actionable technical requirements.**
 - **Optimized revenue strategies** by identifying monetization opportunities through **tiered subscriptions & API-based services.**
- **Data Analyst – PA Supermarche** *Sep 2022 – Aug 2023*
 - **Analyzed weekly sales** trends with Pivot Tables, identifying high-demand products to optimize stock levels & minimize waste.
 - Performance Reporting: Created automated Excel reports to track key metrics, **delivering actionable insights** to management.
 - Insights: Used data-analysis to uncover purchasing patterns, **supporting market strategies** to enhance customer satisfaction.
 - Forecasting: Assisted with **demand forecasting** to improve inventory management & **reduce overstock.**
 - Supported the marketing team by analyzing **customer purchase patterns**, leading to more targeted promotional strategies.
- **Data Information Management Analyst Intern – Citi, India** *Jun 2021 – July 2022*
 - Ensured **consistency & integrity** of organizational data by performing quality checks, **data cleansing & validation** databases.
 - Designed & delivered reports supporting company's decision-making. **Provided actionable insights to senior stakeholders.**
 - Monitored & maintained large datasets in SQL databases, ensuring timely updates & compliance with organizational policies.
 - **Assisted in IT risk assessments** by identifying potential data integrity risks, **detecting missing timestamps in transaction logs**, and implementing validation scripts to improve accuracy.
 - **Implemented role-based access controls (RBAC)** and monitored access logs, reducing unauthorized access risks by **30%.**
 - Developed Excel macros & **automated workflows** to optimize data processing tasks, **reducing manual effort by 30%.**
 - Partnered with cross-functional teams-risk management & IT, enhancing data governance & support enterprise-wide projects.
- **AI Engineer Intern – Bennett University** *Dec 2019 - July 2020*
 - Collaborated to develop drone-based search and rescue system using **3D Convolutional Neural Networks (3DCNN)** and **Single-Shot Detector (SSD)** networks to detect distressed individuals from drone video feeds.
 - Coded the system to identify people waving for help, **extract their GPS coordinates**, and send the data to a central database. The system also **reduced redundant data by cropping & storing unique human figures.**
 - Single-Shot Detector (SSD) was utilized for rapid & **precise human detection**, significantly **optimizing system's responsiveness & efficiency** in time-sensitive rescue missions, ensuring timely identification & response to critical situations.
 - **Mean Squared Error (MSE)** was employed to perform detailed similarity checks, **ensuring high accuracy in distinguishing & comparing detected human figures**, thereby effectively reducing redundant data & improving overall system performance.

PROJECTS

- **Bug Logger | ReactJS, Javascript, Context API** *Dec 2024 – Jan 2025*
 - Developed bug tracking system using React.js to manage & track software issues efficiently. Utilized **(useReducer)** for **centralized state management**, enabling structured handling of bug creation, updates, and status changes.
 - Integrated **Context API to facilitate global state sharing across components**, improving scalability & maintainability. Implemented Local Storage to persist bug data between sessions, ensuring **data retention without backend.**
 - Designed dynamic UI using **CSS Flexbox & Grid**, optimizing responsiveness & accessibility. Leveraged event-driven programming to enable real-time updates when users log, edit, prioritize, & mark bugs as resolved.

- **HarshaFlix | ReactJs, Javascript, React Router, JSON** **Mar 2024 – May 2024**
 - Developed **dynamic** movie browsing application using React.js to create interactive & responsive UI. Implemented **React Router for seamless navigation** between pages, enhancing user experience.
 - Designed **state management system using React Hooks** to efficiently handle search, filtering, rating & watchlist management.
 - Utilized **JSON as data source for static movie listings** & integrated event-driven programming to enable real-time UI updates.
- **Comparative Analysis of Augmenting Route Algorithms in Graph Networks | Java, Git** **Sep 2023 - Nov 2023**
 - Conducted comparative analysis of augmenting route algorithms, including Shortest Augmenting Path, DFS-like, Maximum Capacity, & Random Path, to optimize maximum flow in graph networks, evaluating their performance in terms of efficiency.
 - Implemented **Ford-Fulkerson** as foundational algorithm, achieving a **7% efficiency** improvement with SAP & **5% efficiency** with **DFS-like algorithm** in sparse networks, effectively reducing iterations & computational complexity.
- **Open Tracks Concordia | Java, Android, Maven, Git, Agile** **Jan 2023 - Apr 2023**
 - Improved open-source real-time application by **adding weather-display & fixing bugs** to enhance user experience.
 - Integrated Weather APIs to fetch & incorporate external weather data, providing **real-time updates** within app.
- **Flight Data Analysis using MPI and Docker | Python, MPI, Docker** **Sep 2022 - Dec 2022**
 - Developed Python scripts to analyze data, utilizing **Message Passing Interface (MPI)** enabling efficient data distribution.
 - Created a Docker environment with multiple containers & analyzed efficiency of script with different numbers of containers to implement Distributed System Design concepts like **parallelism, fault tolerance, scalability**.
- **Real-Time Driver Drowsiness Detection System | python, NumPy, OpenCV, Keras, DL** **Aug 2020 - Oct 2020**
 - Developed alert system to detect & monitor driver drowsiness, reducing response time to fatigue **within 2 seconds** & addressing major traffic accident causes by providing real-time alerts & enhancing road safety.
 - Employed **OpenCV** for real-time eye movement analysis, enabling precise detection of driver eye states. Used **Keras** to build & train deep learning models (VGGNet, ResNet), achieving **93% accuracy** in drowsiness detection.

EDUCATION

- **Masters in Applied Computer Science, Computer Science** **Sep 2022 - Aug 2024**
Concordia University Montreal, Canada
- **Bachelor of Engineering, Computer Science** **Aug 2018 - Jun 2022**
Anna university Chennai, India

CERTIFICATIONS

- **Deep Learning for Computer Vision** - *Certified by NVIDIA Deep Learning Institute*
- **Preparing Data for Analysis with Microsoft Excel** – *Certified by Microsoft*