Ketan Dhamdhere

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EDUCATION

George Washington University, School of Engineering & Applied Science — **Washington, DC**
Master of Science Computer Science | GPA-3.83 — May 2026
Coursework: Design and Analysis of Algorithms, Computer System Architecture, Object-Oriented Design, Advance Software Paradigms, Database Management System, Information Policy

Savitribai Phule Pune University — **Pune, India**
Bachelor of Engineering in Computer Science | GPA-3.63 — May 2023
Coursework: Machine Learning, Artificial Intelligence, Operating Systems, Software Engineering, Theory of Computation

EXPERIENCE

Frontend Developer Intern — **August 2023 - June 2024**
Elite Software's | India

- Redesigned the stray dog welfare platform's UI using HTML, CSS, JavaScript, Bootstrap, and React.js, improving navigation, accessibility, and user engagement for 1,000+ daily active users.
- Integrated real-time data from 10+ animal shelters via APIs, enabling accurate adoption and rescue listings, which significantly enhanced user trust and adoption rates.
- Collaborated with backend developers and UI/UX designers in an Agile/Scrum environment to merge wireframes and APIs, ensuring seamless, responsive, and cross-device user experiences.
- Optimized frontend performance with Chrome DevTools, Lighthouse, and React Developer Tools, reducing page load times by 30% and improving overall site efficiency.
- Incorporated user feedback into iterative, user-centric design improvements, implementing responsive web designs that enhanced accessibility, usability, and mobile experience.

PROJECTS

E-Farm Complete Guidance for Farmers — **March 2023 - May 2023**

- Developed a precision agriculture platform leveraging GIS-based acre mapping, layered geospatial data, and IoT sensors for real-time monitoring of soil fertility, moisture levels, and pest risk, directly contributing to a 40% increase in paddy crop yield by optimizing irrigation schedules and crop management strategies.
- Conducted field engagement with 10+ farmers, promoting crop protection awareness, inspecting pest pressures, and implementing data-driven disease control interventions, safeguarding 60% of crops from infestations.
- Integrated data visualization dashboards and automated alerts for soil and pest monitoring, enhancing sustainable and economically viable farming practices through timely, actionable insights.

Start-up Profit Prediction — **January 2022 - March 2022**

- Designed a predictive modeling system using Python, pandas, and scikit-learn to forecast the future profitability of startups, enabling data-driven investment decisions and supporting risk assessment for potential ventures.
- Performed data preprocessing and feature engineering, including imputing missing values using median/mean imputation, one-hot encoding of categorical variables, and normalization of numerical features, ensuring high-quality input for machine learning models.
- Implemented and evaluated Decision Tree, Random Forest, and Linear Regression models, achieving up to 85% prediction accuracy with the Random Forest, directly assisting in strategic resource allocation and identifying high-potential startups.
- Combined quantitative data analysis with qualitative business insights, providing actionable recommendations for startup profitability optimization and strategic forecasting.

Face Mask Detection program for Covid-19 Aspect — **August 2020 - October 2020**

- Developed and deployed a real-time face mask detection system using MobileNetV2 CNN architecture, Python, OpenCV, and NumPy, achieving an accuracy of 99.92%, enabling automated monitoring of mask compliance in workplace environments.
- Designed the research methodology and data analysis pipeline for training and validating the model, ensuring robust performance across diverse lighting and facial orientations.
- Enhanced workplace safety protocols by integrating the system into entry checkpoints, providing real-time alerts for non-compliance and reducing COVID-19 exposure risks.
- Applied computer vision and deep learning techniques to optimize model performance and execution speed, demonstrating scalable biometric system deployment for health and safety applications.

Airbnb Clone — **November 2019 - December 2019**

- Engineered a scalable Airbnb-like platform using Next.js, AWS ECS, AWS Lambda, and Stripe API, implementing microservices architecture with Docker and CI/CD pipelines, which optimized performance through server-side rendering, caching, and lazy loading, improved SEO, and increased transaction efficiency by 10%.
- Designed automated deployment workflows and Infrastructure as Code (IaC), reducing deployment time by 30% and ensuring consistency across development and production environments.
- Integrated secure payment processing with Stripe API and implemented real-time booking updates, enhancing the user experience and operational reliability.
- Applied scalability and microservices design patterns to enable modular development, easy maintenance, and smooth feature expansion.

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Python (NumPy, Pandas, scikit-learn, TensorFlow, PyTorch), Java (Spring Boot), SQL, HTML, CSS, PHP, JavaScript (React.js, Angular.js, Node.js, Express.js)
- **Developer Tools & Frameworks:** Git, Docker, Kubernetes, Jenkins, Jira, Visual Studio Code, Jupyter Notebook, Postman, REST APIs
- **Databases:** MySQL, MongoDB, PostgreSQL, Firebase, Microsoft SQL Server
- **Cloud & Web Services:** AWS (EC2, S3, CodeStar, Lambda), Google Firebase, Heroku
- **Soft Skills:** Critical Thinking, Problem Solving, Collaborative Teamwork, Cross-functional Communication, Detail-Oriented, Resilient, Sound Judgment, Committed, Highly Motivated