Kartikeya Arvind Yadav
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SUMMARY

Software Engineer with over 3 years of experience building scalable applications and integrating AI and machine learning models. Skilled in Python, C++, Java, JavaScript, RESTful APIs, and tools like PyTorch and TensorFlow. Experienced in full stack development for embedded healthcare devices and focused on delivering user driven solutions in intelligent systems and mobility

TECHNICAL SKILLS

- **Languages & Frameworks:** C++, Python, JavaScript, Java, React, Swift (basic), HTML/CSS, SQL
- **Tools & Platforms:** Git, Docker, AWS, Lambda, CI/CD (GitHub Actions, Jenkins), VS Code, IntelliJ, Postman
- **AI/ML Tools & Frameworks:** Python (scikit-learn, PyTorch, TensorFlow), LSTM, Deep Q-Learning, OpenCV, SUMO, Gym, NumPy, Pandas, TensorBoard, Model Evaluation (MAE, RMSE, MAPE, R^2), Curriculum Learning
- **Systems & Architecture:** RESTful APIs, Microservices, Cloud Services, Object-Oriented Design, MVC, Agile/Scrum
- **Databases:** PostgreSQL, MySQL, DynamoDB, SQLite
- **Testing & Debugging:** Unit Testing (Pytest, JUnit), Regression Testing, API Testing, Debuggers, Profiling Tools
- **Others:** Linux, Bash, JSON, GraphQL (introductory), Jira, Figma (for UI wireframes)

EDUCATION

M.S. in Computer Science, Drexel University, Philadelphia, PA — GPA: 3.89   Sep'23 - Jun'25

Bachelor of Technology in Electronics and Communication Eng, Shiv Nadar University, Delhi, India   Jun'17 - May'21

WORK EXPERIENCE

Jitsik LLC — *Graduate Co-op Intern, Software and Sensor Development,* Philadelphia, PA   Sep'24 - Dec'24

- Developed interactive simulations in Unity and C#, improving sensor tracking accuracy for VR driving simulators
- Refactored existing modules to enhance usability, robustness, and cross-platform compatibility
- Collaborated with UI/UX designers to improve the realism and immersion of virtual environments

Smith+Nephew — *R&D Intern - Software Engineering,* Andover, MA   June'24 – Aug'24

- Built multi-threaded backend modules for connected medical devices using Python and C in an Agile team
- AWS IoT services (Lambda, DynamoDB) to enable secure device telemetry and cloud-based analytics
- Participated in sprint planning, unit testing, and continuous integration workflows to deliver production-grade features

Champion Semiconductor LLP GEOCON — *Embedded Software Engineer,* India   Jan'21 – May'23

- Contributed to full-stack development of embedded platforms, including firmware and system-level diagnostics
- Built internal utilities and scripts for automated testing, logging, and version-controlled configuration
- Coordinated with hardware and software teams to ensure seamless integration across the product lifecycle
- Mentored interns in Linux fundamentals and embedded system development, fostering hands-on experience in flashing, debugging, and system configuration

KEY PROJECTS

- **Passenger Announcement System** – Developed a VoIP-based emergency communication platform and an IP-based public announcement system for real-time train broadcasts, ensuring clear and reliable passenger communication
- **Driver Fatigue Monitoring System** – Implemented facial landmark detection for real-time drowsiness and yawning recognition, integrating automated alert mechanisms to improve driver safety in military applications
- **OSA-SAM Radar UI Retrofit** – Modernized legacy radar display systems by developing a Qt and OpenGL-based UI, enabling digital visualization of incoming data for improved operational efficiency
- **RFID Tag Reader for Marathons** – Designed and developed an RFID-enabled tracking system to provide real-time monitoring of marathon runners, combining a Qt-based GUI with a Java backend for seamless data processing

ACHIEVEMENTS & CONFERENCES

- **Safety 21** – Presented the MetaDrive simulator developed at Jitsik for driving education
- **Electronica India 2022** – Exhibited embedded solutions developed by Champion Semiconductions at India's leading electronics event
- **Presentation on Driver Fatigue Monitoring System Prototype** – Presented a driver fatigue monitoring prototype to the Indian Air Force, showcasing sensor integration and real-time alerting
- **Music Performance Certifications** – Level 5 (Electronic Keyboard), Level 2 (Piano) – Trinity College London
- **Upsilon Pi Epsilon** - Inducted into Upsilon Pi Epsilon (UPE) for academic excellence and leadership in computing and information disciplines