Pushkar Bansidhar Patil

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SUMMARY

Software Developer with 2.5+ years of experience in embedded systems, automotive software, and test infrastructure automation. Skilled in **C++**, **Python**, and communication protocols (**CAN**, **Ethernet**). Successfully built and currently own a **'farm' of 100+ automated testbenches**, enabling **CI/CD integration**, scalability, and system reliability through **Ansible** and automation workflows. Experienced in the **full software development lifecycle**, delivering robust and maintainable solutions in collaborative, fast-paced environments.

SKILLS

Programming: Python, C/C++, CAPL, JavaScript (Basics), Ansible, Shell Scripting
Tools & Frameworks: CANoe, PyTest, Git, Agile, V-SDLC, Jenkins/GitLab CI (Pipeline Automation)
Systems & Platforms: ADAS, IoT Development, ESP Microcontrollers, AWS, SIL/HIL, Testbench Infrastructure Automation
AI/ML Tools: TensorFlow, PyTorch, OpenCV, Pandas, NumPy
Testing & Verification: Automation Framework Development, System Validation, Infrastructure Monitoring & Self-Healing Systems

EXPERIENCE

Junior Software Developer

Mercedes-Benz Research and Development India **February 2023 - Present, Bengaluru, Karnataka**

- Designed, developed, and validated ADAS software modules in C++ using V-SDLC and Agile, with hands-on ownership of design through deployment.
- Built automated HIL/SIL test frameworks and diagnostic tools in Python/CAPL, integrating CANoe for scalable system-level validation.
- Built and currently own a farm of 100+ automated testbenches, providing organization-wide access with pipeline-driven reservations for continuous integration testing.
- Implemented health monitoring and self-recovery automations using Ansible, Python, etc. to ensure bench reliability, availability, and long-term maintainability.

IoT and Embedded Systems Developer - Intern

Uilatech LLP **August 2022 - February 2023, Belagavi, Karnataka**

- Programmed embedded systems using C/C++ for home automation applications using ESP microcontrollers.
- Integrated AWS for cloud-based monitoring and control of home automation systems.

Research Intern

KLE's Dr. Prabhakar Kore Hospital & Medical Research Centre **August 2025 - January 2023, Belagavi, Karnataka**

- Compared U-Net, V-Net, and nnU-net for segmentation, and ResNet-50, DenseNet-201, MobileNet, and InceptionNetV3 for classification.
- Achieved a maximum dice score of 0.95 in segmentation and 97% accuracy in classification algorithms.

PROJECT

Transmission Manager in IDC - ADAS

Mercedes-Benz Research and Development India

- **ADAS Development:** Designed and validated ADAS software modules in **C++**, building **automation frameworks (HIL/SIL)** and diagnostic tools in **Python/CAPL**, while integrating **CAN, FlexRay, and Ethernet** for scalable system-level validation.

MTTF

Mercedes-Benz Research and Development India

- **Testbench Infrastructure:** Built and currently **own a farm of 100+ automated testbenches**, enabling **CI/CD-driven testing**, automated reservations, and high reliability through **Ansible**, **Python**, and self-healing workflows.

Prostate cancer detection

KLE's Dr. Prabhakar Kore Hospital & Medical Research Centre

- Developed segmentation and classification based Deep Learning Algorithms for detection of prostate cancer.

EDUCATION

Bachelor of Engineering in Electronics & Communication

Gogte Institute of Technology • Belagavi, Karnataka • 2023 • 9.58 GPA

PUBLICATIONS

Book chapter - Image Processing with Python: A practical approach

IOP Publishing • 2024

- Gavade, A.B., Nerli, R.B., **Patil, P.B.**, Siddannavar, R.R., Bhagavatula, V.S.P. and Gavade, P.A., 2024. Prostate cancer segmentation of peripheral zone and central gland regions in mpMRI: comparative analysis with deep neural network U-Net and its advanced models. In Image Processing with Python: A practical approach (pp. 7-1). Bristol, UK: IOP Publishing.