Dipin Kunhambu Nair

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Summary

Software engineer with 7+ years of experience building production-level Python and C++ software for simulation, automation, and developer tooling. Maintains PyMechanical and contributes to the PyAnsys open-source ecosystem, with ownership of testing, releases, CI/CD, and documentation. Seeking software roles focused on scalable Python platforms, open-source tooling, and reliable customer-facing software.

Education

University of Cincinnati **January 2021 – August 2023**
Master of Science in Mechanical Engineering | GPA: 4.0/4.0 *Cincinnati, Ohio*

Indian Institute of Technology, Hyderabad **August 2012 – August 2016**
Bachelor of Technology in Mechanical Engineering | GPA: 8.24/10 *Hyderabad, India*

Skills

Programming: Python, C++, C#, MATLAB
Software Engineering: Unit Testing, Object-Oriented Programming, Automation, Agile/Scrum
Tools/DevOps: Git, Docker, Linux, GitHub Actions, Azure DevOps, CI/CD

Professional Experience

Synopsys Inc. **August 2023 – Present**
Senior Software Engineer *Austin, Texas*

- Architected and maintained PyMechanical, a PyAnsys open-source Python library enabling programmatic access to Ansys Mechanical.
- Engineered Docker-based containerization and Azure DevOps CI/CD pipelines, reducing release cycles by 30% across Windows and Linux platforms.
- Developed unit and integration testing frameworks, increasing automated regression coverage from 70% to 90%.
- Resolved critical production bugs in ANSYS Mechanical core software (C++/C#) and improved reliability of customer-facing workflows.

Ansys Inc. **January 2023 – April 2023**
Software Developer Intern *Pittsburgh, Pennsylvania*

- Contributed ANSYS Mechanical release features with the Linear Dynamics team, supporting production C++/C# development workflows.
- Validated changes through Windows/Linux developer builds, Azure pipelines, and ARM tests before integration.
- Applied COM principles to extend Mechanical interfaces; partnered with test teams to triage defects and document release functionality.

Procter & Gamble **August 2021 – August 2022**
Robotics Research Assistant *Cincinnati, Ohio*

- Automated fragrance consumption analysis for 600+ air fresheners using robotic batch testing workflows.
- Enabled robot weighing, QR-code computer vision, and validated data uploads to Siemens server workflows.
- Created a Python PyQt GUI to improve customer interaction and standardize test execution.

Tata Consultancy Ltd **October 2019 – December 2020**
Systems Engineer *Bangalore, India*

- Earned Design for Six Sigma Black Belt certification by supervising 2 projects as team leader and facilitator.
- Coordinated development of 12 efficiency modules in MASTA software using C++.
- Led a cross-functional team of 4 to automate meshing in SimLab using JavaScript for simulation analysis.

General Motors **September 2016 – September 2019**
Senior Engineer *Bangalore, India*

- Automated Abaqus system modeling with VBA scripting, reducing manual effort by 85%.
- Earned 7 recognitions, including Work of Wonder and Pat on the Back, for transmission efficiency optimization.