

# Tanvi Virappa Patil

647-679-9166 | [tanvipatil843@gmail.com](mailto:tanvipatil843@gmail.com) | [linkedin.com/in/tanvi-virappa-patil](https://www.linkedin.com/in/tanvi-virappa-patil) | [github.com/TanviVVCE](https://github.com/TanviVVCE) | [Portfolio](#)

## PROFESSIONAL SUMMARY

---

Software Engineer with 3+ years of experience in cross-platform Flutter application ,Agile development, OOP, and scalable architecture design. Strong hands-on expertise in Flutter, Flask, TensorFlow, Jenkins, **Docker**, **Kubernetes**, and Diffusion models, achieving **25–30% performance improvements** across deployments. Experienced in cross-platform app development, CI/CD automation, and integration of Generative AI, Blockchain, and low-code/no-code technologies.

## EDUCATION

---

**University of Toronto – School of Engineering** Sep 2024 – April 2026  
*Master of Engineering in Electrical & Computer Engineering (ECE)* Toronto, ON

- Research under *Prof. Kundur* – Post Quantum Cryptography to secure Blockchains and scale them using Cloud Computing

**Vidyavardhaka College of Engineering** May 2018 – Aug 2022  
*Bachelor of Engineering in Computer Science and Engineering (CS)* Mysore, IN

- Published [An innovative medical system to predict mortality rates in Hospitals using Machine Learning and Artificial Intelligence](#)

## PROFESSIONAL EXPERIENCE

---

**Tech2U Classroom Ambassador** Jan 2025 – Present  
*Technical Support, University of Toronto* Toronto, ON

- Supported 600+ instructors with classroom technology, ensuring seamless teaching experiences
- Deployed Whisper AI-based auto-captioning system aligned with professor feedback for improved accuracy

**G12** Jan 2025 – May 2025  
*Flutter Developer* Toronto, ON

- Led a University of Toronto student initiative supporting international students in selecting suitable majors for studies
- Optimized API performance by fixing bugs, achieving a 30% improvement in location data retrieval efficiency using **Docker**
- Developed user interfaces focused on improving usability and engagement using **Figma** and **Canva**
- Partnered with developers and designers to enhance project coordination and improved team productivity by **10-20%**

**Brane Services Private Limited** Aug 2022 – July 2024  
*Platform Leader – SDE II* Bangalore, IN

- Emphasized various state management methods like **BLoC**, **GetX**, **Riverpod** which improved the scalability by 40%
- Published more than 4 fully functional Android and iOS applications on Play Store and App Store
- Efficiently implemented offline functionality using Hive, shared preferences, firebase increasing user interaction by 30%
- Integrated backend APIs via change notifiers, Dio, providers and https calls ensuring mobile security to avoid SSL pinning, MIMT attacks adhering to OWASP rules
- Improved the application performance by 25% after implementing **Native communication channels**
- Mentored junior team members promoting knowledge-sharing and skill development to enhance team performance
- Successful in completing deadline intensive projects, resulting in new business opportunities for my employer
- Executed pre-production part testing and preparation for client deliveries with a 93% pass rate
- Developed a robust **CI/CD** testing pipeline using **Jenkins**, **Docker** and **Kubernetes**

**Brane Services Private Limited** May 2021 – Aug 2022  
*Software Engineer Intern* Bangalore, IN

- Fixed bugs and deployed various features as per business requirements
- Integrated several APIs and developed complex UX screens ensuring fluidity with at most efficiency using Dio, https packages

## PROJECTS

---

- [Resume Swift](#) - An android application targeted for professionals who can choose templates to create customized resumes catering to their needs. Implemented various Json templates which used 20% less storage
- [Bibo](#) - An application for patients undergoing physiotherapy to empower them to practice exercises under constant supervision via computer vision and image processing. Worked in implementing machine learning models
- [Telcel](#) - A Mexico based project created for the global conference held by the company. Integrated AI based facial registrations and dealt with the client on day-to-day basis

- [Brane](#) - Learning Management solution for brane employees for conducting quizzes at organization level. Integrated chatbot named 'Stringer' which answered all the queries supported via VoIP
- [SDI-WMS](#) - A mobile application designed to cater the needs of SDI clients for providing warehouse management solutions. Handled API calls in an efficient way by integrating easier flows and implemented Firebase Crashlytics for crash analysis which improved app debugging by 40%
- [OneNest](#) – Integrated Google maps supporting live location tracking and navigation with multiple stops
- [G12 Application](#) – UofT student led mobile application helping international students
- [Text to Speech from speaker embeddings using Diffusion Models - Generative AI](#)
- [GPU Accelerated Real Time Video Processing Framework](#)
- [Full fledged pet playdate application using Docker and Kubernetes](#)

## VOLUNTEERING

---

### MPAC Student Wing

*Student Ambassador, University of Toronto*

*May 2025 – Present  
Toronto, ON*

- Collaborated with the MEng Graduate Office to enhance the overall experience for engineering students
- Led and conducted several professional development initiatives to support student growth beyond academics

## SKILLS

---

**Programming Languages:** Python, Dart (Dart Streams), SQL, JavaScript, HTML, CSS

**Cloud Computing:** AWS, Distributed Storage Systems, Enterprise, IAM Management, Cybersecurity, Networking Security

**Architecture:** MVVM, MVC, MVP, MVI, BLoC and Component based architecture

**Data Engineering:** Machine Learning, Deep Learning, Transfer Learning, Federated Learning, Reinforcement Learning, AI Implementation and Operations

**Databases:** Redis, MongoDB, PostgreSQL, MySQL, Django, Firebase

**DevOps:** Virtualization, Containerization (Docker), Container Orchestration (Kubernetes), Cloud Storage, Cache Storage, CI/CD Solutions (Jenkins, GitHub Actions), IaaS (Infrastructure as Code), PaaS (Platform as a Service), Message Queue (RabbitMQ, Apache Kafka, Apache Pulsar), MCP

**Tools/Framework** - Flutter, Git, Postman, Jira, Confluence, CUDA for NVIDIA Parallel Programming

**Generative AI** – LangChain, Diffusion Models, Hugging Face, VAEs, Flow based models, LLMs, TTS Models, GANs, HiFi Vocoder, VQ-VAE