

Sujay V Kulkarni

B.Tech(Hons) in Computer Science and Engineering
Majors in AIML and Minors in Innovation Entrepreneurship and Product Development
3rd Year · RV University, Bengaluru

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🌐 bit.ly/sujayvitae 🗣️ [HuggingFace: sujayvk-btech23](https://www.huggingface.co/sujayvk-btech23)

1. Profile

Builder working at the intersection of **AI, Quantum Computing, Cybersecurity, and Systems Engineering**, with hands-on experience across **production deployments, publications, patent filings, and startup execution**. Currently leading development spanning **LLMs, DevOps pipelines, edge AI compression, and applied quantum research**, with a demonstrated ability to take systems from **idea → implementation → deployment → impact**.

Focus Areas: Generative AI · Quantum Computing · Cybersecurity · Distributed Systems · Applied Research · Production Engineering

2. Key Expertise

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|------------------------------|--|
| AI & ML | LLMs, RAG, Agents, Computer Vision, Deep Learning, Autoencoders, Generative AI , Affect Sensing, VLMs, Prompt Engineering, Claude Code, Codex, Antigravity, Vellum AI, dify.ai, Google AI workspace, Google AI studio. |
| Quantum Computing | Qiskit , Q#, QASM, Quantum Algorithms, PQC, Hybrid Quantum-Classical, Microsoft Azure Quantum |
| Backend & Systems | Python, Flask, APIs, MySQL, PostgreSQL, SQLite, System Design, Production Systems |
| Frontend | ReactJS, HTML, CSS, JavaScript, Material UI, UX Design |
| DevOps & Cloud | Docker, Podman, CI/CD, GitHub Actions, Linux, Server Management, Cockpit, Fail2ban |
| Security | Cybersecurity, Web Security, Database Security, Threat Detection, Shell Scripting |
| Research | Technical Writing, Patent Drafting , Optimization, Model Evaluation, LaTeX, SHAP Interpretability |
| Languages | Python, Java, C, JavaScript, Q#, SQL, HTML/CSS |

3. Experience

Software Developer & DevOps Intern (Semester Long) — Sri Aranea Technologies Jan 2026 – Present
Bengaluru, Karnataka, India · IT/ITES · Stipend: 10,000/month

Mentor: Dr. Suchitra M Joshi, President & CEO · Academic Guide: Dr. Phani Kumar Pullela

[Database] [Shell Scripting] [Vellum] [JIRA] [MySQL] [Linux] [Flask] [Git] [LLMs] [Docker] [Podman] [GitHub] [Agile] [Agents] [Dify]

- Building and maintaining [possibleclients.com](#) — production-deployed B2B SaaS platform.
- Managing production VPS infrastructure: Podman containerization, CI/CD via GitHub Actions, DKIM/SPF email authentication, Fail2ban security hardening, database backup pipelines.

Software Developer, Winter Internship — Sri Aranea Technologies Dec 2025 – Jan 2026
Stipend: 10,000/month · Mentor: Dr. Suchitra Joshi, President & CEO · Academic Guide: Dr. Veena

[Camera] [Mobile App] [Python] [Image Processing] [Flutter] [Statistics]

- Built a fingerprint scanner mobile app using camera and image processing; captured accurate fingerprints and obtained payment from client.

Software Developer, Semester Long — Sri Aranea Technologies Sep 2025 – Nov 2025
Stipend: 10,000/month · Mentor: Mr. Basavaraj Yalwar · Academic Guide: Dr. Phani Kumar Pullela

[MySQL] [Linux] [ReactJS] [UX Design] [UI Development] [Material UI]

- Built possibleclients.com version 2 and aided in deployment on production server.

Director & CEO — Goodwinsun (AI Research Startup) Sep 2025 – Present
Bengaluru, Karnataka, India · [AIML] [Quantum Computing] [Data Security] [Cloud Security] [Generative AI] [Research]

- Founded and lead Goodwinsun, an AI research startup driving projects across LLM compression (VAMANA), cybersecurity (TAARA), and grant-tech (granty).
- Manage end-to-end research lifecycle: ideation, implementation, benchmarking, and publication.

Linux Server Administrator, Summer Internship — Sri Aranea Technologies Jul 2025 – Aug 2025
Bengaluru, Karnataka, India (listed location: Iceland) · Stipend: 10,000/month
Mentor: Dr. Suchitra, President & CEO · Academic Guide: Dr. Phani Kumar Pullela
[Servers] [Cockpit] [Data Security] [Containerization] [Database Security] [Firewalls] [Web Application Security]

- Managed production server hosting the application; administered production database, application, and handling basic security for the same.

DevOps Engineer, Summer Internship — Sri Aranea Technologies Jun 2025 – Jul 2025
Stipend: 10,000/month · Mentor: Dr. Suchitra Joshi, President & CEO
[MySQL] [GitHub Actions] [CI] [Dockerhub] [Databases] [Linux] [Podman] [Git] [Docker]

- DevOps engineering for possibleclients.com platform at SriAranea.

Full Stack Developer — Cortex Craft Jun 2025 – Jul 2025
Bengaluru, Karnataka, India · IT/Computers-Software
Mentor: Sheik Tajuddin Shah, SW Engineer · Academic Guide: Dr. Sonam V Maju
[AIML] [Python] [git] [Javascript] [PostgreSQL] [Gemini] [gitlab] [HTML5] [Flask] [CSS] [Agile] [Generative AI]

- Built full-stack generative AI applications for clients.

Patent Drafting and IPO Intern — Ethical Rhythms Pvt. Ltd. Feb 2025 – Apr 2025
Bengaluru, Karnataka, India · Manufacturing/Core · Stipend: 8,000/month
Mentor: Mr. Varadarangan, President & CEO · Academic Guide: Dr. Phani Kumar Pullela
[Technical Analysis] [IPO] [Music] [IP] [Physics] [Patentability] [Technical Writing] [Patents]

- Interned in Patent Drafting for Ethical Rhythms pvt. ltd. (Brand: karunyamusicals.com).

Frontend Web Developer, Winter Internship — CIE, RV University Dec 2024 – Jan 2025
Bengaluru, Karnataka, India · Education · Stipend: 8,000/month
Mentor: Dr. Phani Kumar Pullela
[Web] [UX Design] [frontend] [Design Thinking] [html] [Web Design] [ReactJS] [javascript] [css]

- Frontend development for the BVB × RVU Patent Workshop platform.

Quantum Computing Intern, Summer — CQST, RV University Jun 2024 – Aug 2024
Bengaluru, Karnataka, India · Education
Mentor: Vaidyanathan Sivasubramanian, Center Head (vaidyanthans@rvu.edu.in)
[Quantum Computing] [Q#] [Quantum] [Microsoft Azure] [Python] [Qiskit]

- Foundational quantum computing research at CQST; enhanced fundamentals and promoted writing of multiple research papers on quantum computing and quantum mechanics.

Machine Learning Intern, Summer — DAPMRVDC Jun 2024 – Jul 2024
Hospitals / Healthcare / Diagnostics, Bengaluru
Mentor: Dr. Revan Joshi · Academic Guide: Dr. Shabbeer Basha
[Computer Vision] [AIML] [Python] [YOLO] [Image Processing]

- Internship for classification of dental X-ray images for teeth classification and identification of anomalies.

Database Administrator, Summer — DAPMRVDC Jun 2024 – Jun 2024
Hospitals / Healthcare / Diagnostics, Bengaluru
Mentor: Dr. Revan Joshi · Academic Guide: Dr. Vidya MJ
[HTML] [MySQL] [Javascript] [SQL] [Databases] [Flask] [SQLite] [CSS]

- Building and managing database for DAPM RV Dental College for their NAAC Accreditation-related event management.

Frontend Web Developer — JK Expertrons Mar 2024 – Apr 2024
Bengaluru, Karnataka, India · Education · Stipend: 5,000/month
Mentor: Sri Jayanti K · Academic Guide: Dr. Karthikeyan Periyasami
[Javascript] [CSS] [HTML] [Data Analysis]

- Built the platform for JK Expertrons.

4. Research Publications

Quantum Entropy-Driven Temperature Scaling for Hallucination Mitigation in Generative Models

Conference Paper — *International Conference on Artificial Intelligence and CyberSecurity (ICAICS 2025)*, Springer · Dec 2025

Authors: 6 · Mentor: Prof. Dr. P C Deshmukh · [\[AIDL\]](#) [\[Quantum Computing\]](#) [\[Research\]](#)

Best Paper Award ↗

- Integrates a 2-qubit parameterized quantum circuit (PQC) into the latent processing pipeline of an LSTM-based model, introducing adaptive temperature scaling based on quantum entropy measurements (QEDTS).
- Demonstrates 26.7% reduction in hallucination rates (58.0%→42.5%), 178.6% better entropy calibration (0.572→1.593), and 27.4% reduction in overconfident predictions (0.868→0.630) across multilingual QA tasks.

Quantum Circuit of the Elitzur-Vaidman Bomb Tester

Journal — *Quantum Information Processing* · Authors: 7 · Mentor: Prof. Dr. P C Deshmukh

[\[Quantum Computing\]](#) [\[Python\]](#) [\[QASM\]](#)

- Implements a scalable quantum circuit using the Quantum Zeno effect: success probability follows $[\cos^2(\pi/4N)]^N$ approaching unity as N grows.
- Circuit requires only 2 qubits irrespective of depth; immediately executable on near-term processors with mid-circuit measurement. Outperforms the original 25% limit by a wide margin for all $N \geq 2$.

Metric Driven Adaptive Temperature Scaling: A Regression Based Approach

Conference — *IMED Conference Malaysia, IEEE Xplore* · Authors: 6 · Mentor: Dr. Ashwini Kodipalli

[\[AIDL\]](#) [\[Generative AI\]](#) [\[LLMs\]](#) [\[Research\]](#) [\[Deep Learning\]](#)

- Adaptive temperature scaling for GPT-2 poetry generation; forward-propagated 768 logits across a temperature grid to produce training data for MLP, XGBoost, and Random Forest regressors.
- XGBoost achieved +10.9% ROUGE-L F1 and +5.7% BERTScore F1; results statistically significant via paired t-tests. See [VAMANA](#) for related edge LLM work.

5. Projects

VAMANA: VAMana's a Model that Attends Narrows and Amplifies github.com/SujayKulkarni-2211/vamana

Team Size: 1 · [\[Python\]](#) [\[Deep Learning\]](#) [\[LLMs\]](#) [\[Edge Computing\]](#) [\[Optimization\]](#) [\[Quantization\]](#) [\[LoRA Adaption\]](#) [\[FireAttention\]](#)

- Edge LLM with FireAttention and squeeze-expand bottleneck for aggressive compression.
- Research paper in progress targeting ACL 2026 Industry Track (First Author alongside Aditya S. Maller and Unnathi C.S.).

TAARA: Threat Aware Autonomous Response Agent github.com/SujayKulkarni-2211/taaraiepd

Team Size: 3 · Mentor: Dr. Phani Kumar Pullala

[\[Deep Learning\]](#) [\[Autoencoders\]](#) [\[Cybersecurity\]](#) [\[AIDL\]](#) [\[Python\]](#) [\[Research\]](#) [\[Reflection in LLMs\]](#)

- Behavioral anomaly detection system using reconstruction-based novelty detection and quantum validation via PennyLane.
- Production-deployed; patent filing in progress. [Patent](#) ↗ Pitched at Elevate NxT 2026.

granty — AI-Powered Grant Writing Platform granty.onrender.com

Mentor: Dr. Phani Kumar Pullala · [\[Frontend\]](#) [\[Backend\]](#) [\[HTML\]](#) [\[CSS\]](#) [\[Javascript\]](#) [\[Flask\]](#) [\[Gemini API\]](#) [\[langchain\]](#) [\[wb2\]](#)

- Flask + GenAI + LangChain platform serving 5+ clients; benefited 3 users in achieving their grants.
- **FKCCI Manthan 2025 Finalist.** ↗

naimisharanya — Dharmic Mental Wellness App

Mentor: Dr. Suchitra Joshi · [\[RAG\]](#) [\[LLMs\]](#) [\[Python\]](#) [\[Agents\]](#) [\[VLM\]](#) [\[Affective Computing\]](#) [\[Affect Sensing\]](#)

- LLM-based mental health support system with narrative-driven context modeling using Hindu scriptures (Puranas, Upanishads) for dharmic storytelling and emotional grounding.

Lessgogrover — Grover's Algorithm Simulator [HuggingFace Space](#)

Team Size: 1 · Mentor: Prof. Vaidyanathan Sivasubramanian

[\[Quantum Computing\]](#) [\[Algorithms\]](#) [\[Quantum Algorithms\]](#) [\[Streamlit\]](#) [\[Python\]](#) [\[Simulation\]](#)

- Interactive simulation and explanation of Grover's Algorithm; deployed on HuggingFace Spaces.

6. Certifications & Assessments

- **Design and Implementation of Human Computer Interfaces** — NPTEL *Enroll: NPTEL25CS135S752601028*
Human-Computer Interaction, User Interface Design, Usability, Interaction Design, User-Centered Design. 12-week NPTEL course.
- **Open Source Models with Hugging Face** *Enroll: 10123280*
[Transformers](#), Model Deployment, NLP, Model Fine-tuning, Machine Learning, AI Model Hub Usage, [LLMs](#), Deep Learning.
- **Transformer Models and BERT Model** *Enroll: 10123945*
Transformer Architecture, BERT, NLP, Text Classification, Tokenization, Model Fine-tuning, Attention Mechanism.
- **Introduction to LangGraph** *Enroll: 10124373*
LangGraph Framework, LLM Workflow Design, Stateful AI Systems, Agent-based Architectures, Prompt Engineering, Orchestration.

7. Positions of Responsibility

- **Founder & President** — **RUDRA (Resourceful Unit for Data Research and Analytics)**, RV University
Established RUDRA, the data science club of RV University; organised events, knowledge drops, and responsible for overall establishment, development and growth of the club.
- **Chief Advisor / President Emeritus** — **RUDRA, RVU**
Advisory post for RUDRA; responsible for advisory board, conflict resolution, vision, and research direction.
- **Vice Chairperson** — **IEEE Student Branch, RVU**
Second in command for IEEE student branch RVU; oversee responsibilities from establishment to membership drives to web operations to events.
- **Technical Writing Officer** — **Chiptech (IoT and Robotics Club, RVU)**
Responsible for technical writing and research at Chiptech.
- **Founder of IDEathon, RVU**
Founder of Ideathon, one of the biggest events in RVU. Responsible for judging, corporate affairs, and design of the event.
- **Founder & Vice Chair** — **VYAASA (Vaicharika Youthful Association for Ancient and Spiritual Awareness)**
Founded and led VYAASA for cultural and philosophical discourse at RVU.

8. Achievements

- **Best Paper Award** — International Conference on AI & Cybersecurity (ICAICS 2025, Springer) [↗ Publication](#)
- **Patent Filing in Progress** — AI cybersecurity and quantum-enhanced systems [↗ TAARA](#)
- **Finalist** — **FKCCI Manthan 2025** (granty) [↗ granty](#)
- **Finalist** — **Karnataka Elevate 2024**
- **Winner** — **Building Application Hackathon** (waruna)
- **Delegate (C.)** — **Indo-Sri Lanka Economic Summit**

9. Competitive Coding & Open Source

- **GitHub:** [600+ contributions](#) over 3 years across personal and organisation repositories.
- **LeetCode:** 66+ problems solved across core DSA patterns; contest qualifier (Codeverse).
- **HackerRank:** 5 stars Problem Solving · 5 stars Python · 3 stars Java · 1 star Bronze C.
- **Open Source Contributions:** Contributor to Microsoft Q# · Microsoft Quantum Development Kit (QDK) · scikit-learn.

10. Education

B.Tech — Computer Science Engineering (AI-ML), RV University, Bengaluru 2023 – 2027 (Expected)
Sem I 8.08 Sem II 9.17 Sem III 8.66
Sem IV 8.59 Sem V 9.3 Aggregate CGPA 8.76

PUE (12th Standard) — RV PU College, Bengaluru Karnataka Board, 2023
95.33/100 · Bengaluru, Karnataka, India, 560104 · Medium: English

10th Standard (SSLC) — Shree Bharathi Vidyalaya, Bengaluru KSEEB, 2021

11. Extracurricular & Personal

International Tabla Artist · Sangeeta Prabhakar National Award · Chamundeshwari National Award · Life time member of Global Economic Forum · Intermediate Hindustani Vocalist · Harmonium · Music Composer · Poet · Swimming · Kannada Literature · HaleGannada · Mahakavyas · Vedantic Philosophy · Sanskrit Literature · Reading(All kinds from literature to science to tech) · Published Author: The Adventures of Detective Sujay

12. Additional

Online Profiles & Links:

 [pod.ai \(RVU\) Profile](#)  [Linkedin](#)

Human Languages: English · Hindi · Kannada · Sanskrit · Marathi

References:

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|------------------------------|--|--|
| Dr. Phani Kumar Pullela | Academic Mentor, RV University | phanikumarp@rvu.edu.in |
| Dr. Suchitra M Joshi | President & CEO, Sri Aranea Technologies | suchitra@sriaranea.com |
| Vaidyanathan Sivasubramanian | Center Head, CQST, RVU | vaidyanthans@rvu.edu.in |
| Dr. P C Deshmukh | Academic Mentor, RV University | pdeshmukh@rvu.edu.in |

These are few of all projects, publications, and contributions. Almost all the listed items are verifiable via the links above. Nothing is unsubstantiated and if required, I can be contacted for any proofs or links.