

VIKRANT BHATI

+1-540-934-8027 | vikrant@vt.edu | linkedin.com/in/vikrantbhati

Education

Virginia Tech, Blacksburg, VA

Master of Science – Computer Engineering, Aug'2024 – In Progress (May'2026)

- *Related Coursework:* Advance Machine Learning, Computer Vision, Deep Learning, Natural Language Processing, Nonlinearity & Predictability.

Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, India

Bachelor of Technology, Electronics and Communication Engineering (ECE), Jul'2013-June'2017

- *Related Coursework:* Data Structure, Cyber Security, Software Design using C++, Microprocessors, Microcontroller and Its Applications, Signal Systems, Linear Algebra

Machine Learning Projects

Comprehensive Study of CNN, Virginia Tech, Apr'24 – May'2024 <https://github.com/vikrant-bhati/Deep-learning>

- Performed comprehensive performance analysis of Convolutional Neural Networks (CNNs) across multiple configurations for both image segmentation and classification tasks.
- Compared ResNet18-based CNN models across multiple configurations—including standard (no attention), soft attention with per-pixel and global feature maps, hard attention, and Omni-Directional Convolution (ODConv)—evaluated on ImageNet and Pascal VOC datasets for image classification and segmentation tasks.

GRPO on LLM, Virginia Tech, Mar'24 – May'2024 <https://github.com/vikrant-bhati/qwen-grpo>

- Implemented Generalized Reward Policy Optimization (GRPO) over Qwen 2.5 with Chain-of-Thought (CoT) prompting on a medical dataset, enabling interpretable decision-making and demonstrating improved model performance through the integration of CoT and GRPO strategies.
- Used a Supervised Fine-Tuned (SFT) model as the base and evaluated performance using metrics such as Perplexity, with Gemini 2.0 Flash as an LLM-based evaluator. Post-processing with GRPO led to an approximate 7% improvement in overall output quality

Generating AI Anime Images, Virginia Tech, Oct'24 – Nov'24

- In this project, we developed an application that generated anime-based AI images based on characteristics provided by the user.
- Led a three-member team with a primary focus on implementing Deep Convolutional GAN (DCGAN) and Conditional GAN (CGAN) architectures for image generation.

Gesture Control Game, Virginia Tech, Oct'24 – Oct'2024 https://github.com/vikrant-bhati/asphalt_reimagined

- This project was to develop a gesture-based control system for a direction-controlled game in which a gamer can move left and right or continue going straight by using hand gestures.
- Collaborated in a two-engineer team, primarily focusing on the computer vision component—using MediaPipe and OpenCV to detect hand gestures from a camera feed and integrating gesture-based controls into a game developed with Pygame.

Software Development Experience

Coop Software Development Engineer, Viavi Solution (former JDSU), May'2025 – Dec'2025

- Joined Viavi Solutions as a Software Developer, specializing in FPGA-based solutions for embedded systems. Responsible for developing high-performance, low-level C++ software that interfaces directly with custom FPGA hardware. Work includes implementing software modules for FPGA communication, optimizing processing efficiency, and enabling real-time data acquisition and processing to support advanced network testing, monitoring, and optimization tools for next-generation communication and measurement systems.

Specialist, Software Development Engineering, Fiserv India Private Ltd: 2020 – Jul'2024

- Designed and developed DNC microservice utilizing Google Cloud Services (Pub/Sub, GCS, Cloud Functions, Kubernetes, Cloud Spanner) to verify phone numbers' compliance with FTC's Do Not Call Registry, similar to GDPR guidelines.
- Led a team of 5 engineers to create a native inventory storage solution empowering the merchants to manage multiple menus, reducing reliance on external apps.

- Engineered the decomposition of the monolithic application into a distributed system of microservices, enhancing scalability and agility.

Professional, Software Development Engineering, Fiserv India Private Ltd: 2018 – 2020

- Implemented Card Free Cash feature, enabling cardholders to conduct transactions without physical cards. Built a standalone server for ATM and POS requests, RESTful services for mobile app integration, and Web GUI for admin configurations.
- Spearheaded the deployment process automation through CI/CD pipelines while integrating critical security scanning tools, including Fortify, Sonatype, and WebInspect, to fortify our systems to make the system more reliable, compliant, and robust.
- Developed the library to encrypt Personally Identifiable Information (PII) and Payment Card Industry (PCI) data using Voltage (HPE Tool).

Trainee, Quality Assurance Engineering, Fiserv India Private Ltd: 2017 – 2018

- Automated 600+ manual test cases using the IBM Rational Function Tool, leading to a 60% per sprint reduction in the regression efforts.
- Built and executed comprehensive test cases and test suites for the Billing module in IIP Application. Successfully reduced 50% regression bugs in each sprint.
- Acquired proficiency in vital software development areas: Agile methodology, GIT version control, and Jira project management.

Technical Skills

- *Concepts:* Machine Learning, Deep Learning, Supervised & Unsupervised Learning, Neural Networks (CNNs, RNNs, DNNs, MLPs), Data Visualization, Exploratory Data Analysis (EDA), Time Series Analysis, Model Evaluation & Tuning, Generative Models (DCGAN, CGAN), Recommender Systems, Data Structures & Algorithms, Object-Oriented Programming (OOP), RDBMS, NoSQL
- *Programming Languages:* Python, Java, C++, SQL
- *Tools & Frameworks:* TensorFlow, PyTorch, scikit-learn, Pandas, NumPy, Matplotlib, Seaborn, Plotly, Tableau, Power BI, Spring, Spring Boot, JPA, Redis, Kafka (Pub/Sub), OpenAPI, RESTful APIs
- *Clouds:* Google Cloud Platform (GCP), Microsoft Azure, Amazon Web Services (AWS)
- *DevOps & Tools:* Git, Jenkins, Terraform, SonarQube, Docker, Kubernetes, Grafana, IntelliJ IDEA, PyCharm, Jupyter Notebook, MySQL Workbench, MongoDB

Leadership Positions

- Trained 30+ engineers in backend technology such as JAVA, by creating comprehensive learning paths and assignments.
- Pioneered Fiserv's Clover initiative as the first Server Engineer in India, playing a key role in building a team from its inception to a formidable force of 250+ engineers.
- Recognized with an Orange Story highlighting my professional journey to inspire fellow engineers.

Honours & Certifications

- **ISTQB Certified Tester Foundation Level** by Indian Testing Board (ITB).
- Securing a rank of 13,307 out of 141,665 Electronics Engineers in **Graduate Aptitude Test in Engineering (GATE) conducted** by IIT, Roorkee on behalf of NCB-GATE in 2017.
- 15+ Living Proof awards for outstanding work and Employee of the Month on 3 occasions while working for Fiserv.

Extracurricular Activities

- Won three Clover Hackathon competitions held globally securing Judges Awards, 2nd place and 1st place respectively by implementing Communication Commerce using RCS, Smart inventory and Automatic Tip Management system.
- Engage in CSR activities at Fiserv, like plantation drives, and classes for underprivileged students.