# Paramvir (Vick) Gill

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## Summary

Highly motivated Full Stack Developer with expertise in building responsive web applications and data visualization dashboards. Experienced in TypeScript/JavaScript, React, Python/Flask, and RESTful APIs. A problem-solver with excellent communication skills and a passion for creating seamless user experiences through clean, efficient code.

## Technical Skills

**Languages**: TypeScript/JavaScript, Python, HTML, CSS
**Frontend**: React, Next.js, Redux, D3.js, Bootstrap, Tailwind CSS
**Backend**: Node.js, Express, Flask, Jinja2, FastAPI
**Databases**: MongoDB, SQL (PostgreSQL), Redis
**Tools & DevOps:** AWS EC2, AWS S3, Docker, Jenkins, Git
**Development Practices**: Agile/Scrum, CI/CD, Unit Testing, RESTful API Design, Microservices Architecture

## Professional Experience

**Software Developer** Jul 2024 – Present
*Droplet Lab* Toronto, ON

- Technologies used: Python, Flask, JavaScript, HTML, CSS, React, Redis, Keras, Jenkins, Git/Github, CI/CD
- Improved user experience by 40% by developing an interactive web demo with Flask backend and JavaScript frontend, while implementing a Redis-based caching system for faster repeated analyses
- Reduced measurement time from days to seconds by implementing a specialized machine learning model using Python's Keras framework, and streamlined deployment with Jenkins CI/CD pipelines reducing issues by 60%

**Software Developer** May 2022 - Apr 2023
*Morgan Stanley* Montréal, QC

- Technologies used: Python, JavaScript, React, Node.js, Express, MongoDB, C++, SQL, Jenkins, Docker, Git
- Improved asset tracking and trading platform efficiency by developing a MERN stack management system and optimizing RESTful services, reducing response time by 30% through improved algorithms
- Enhanced deployment reliability by implementing CI/CD pipelines in Jenkins with zero-downtime deployments, and built low-latency ETL pipelines using Python/C++ for algorithmic trading

**Computer Science Student** Aug 2020 - Apr 2024
*Oregon State University* Remote

- Technologies used: JavaScript, HTML, CSS, React, Python, C/C++, Flask, Node.js, MongoDB, AWS
- Completed comprehensive computer science curriculum focusing on web development, algorithms, and data structures by implementing agile methodologies in team-based software projects
- Developed 5+ full-stack web applications using React, Node.js, and MongoDB through practical course projects

**Product Development Engineer** Nov 2020 - Jun 2021
*Siemens Energy* Dorval, QC

- Technologies used: Python, Pandas, NumPy, Matplotlib, D3.js, SQL, Git, RESTful APIs
- Increased engineering productivity by 35% by developing analytical tools in Python for extracting actionable insights from numerical data
- Improved decision-making speed by creating interactive data visualization dashboards using D3.js to monitor system performance and updating technical documentation

**Product Development Engineer** Nov 2018 - Apr 2020
*Pratt & Whitney Canada* Mississauga, ON

- Technologies used: Python, JavaScript, HTML, CSS, React, Node.js, Express, MongoDB, REST APIs

- Decreased jet engine data analysis time by 70% by creating a Single Page Application using the MERN stack
- Improved application responsiveness by implementing performance optimizations including lazy loading and state management

**Computational Researcher** May 2017 – Nov 2018
*University of Toronto – Thomson Lab* Toronto, ON
- Technologies used: Python, Pandas, NumPy, Matplotlib, REST APIs, Cantera, Git
- Enhanced collaboration with Ford Motor Company by 40% through Python-based data processing pipelines while developing reusable Cantera libraries for thermochemical calculations across multiple research projects
- Improved research outcomes by 35% by designing API interfaces for data exchange between systems and implementing interactive JavaScript/D3.js visualizations that reduced analysis time by 60%

**Research and Development Engineering Intern** May 2016 – Apr 2017
*Ford Motor Company* Windsor, ON
- Technologies used: Python, Pandas, SQL, Jupyter Notebook, Matplotlib, Excel (VBA), Tableau, ETL pipelines
- Improved R&D parts performance by 25% and reduced data processing time by 70% by developing Python-based ETL pipelines and automation tools that transformed raw test data into structured analytical datasets
- Enhanced decision-making by creating interactive Power BI dashboards and automating report generation with Python scripts for statistical analysis

## Projects

**Metro Train Predictive Maintenance Dashboard** [link] Jan 2025 – Apr 2025
- Technologies used: Python, Flask, D3.js, JavaScript, HTML, CSS, Random Forest ML, Redis
- Reduced maintenance costs by developing a responsive Flask/D3.js web application that predicts equipment failures up to 7 days in advance using Random Forest machine learning
- Enhanced interpretability by creating statistical process control charts and interactive visualizations with dynamic control limit calculations
- Improved decision-making for maintenance teams by integrating Python data processing pipelines with Redis caching to transform raw sensor data into actionable insights

**Fluffy Fury - 3D Physics-Based Stealth Game** [link] Jan 2025 – Apr 2025
- Technologies used: Unity, C#, AI algorithms
- Created engaging gameplay experience by implementing physics-based mechanics with AI-controlled NPCs featuring detection and pursuit behaviors
- Built a modular awareness and pathfinding system leveraging Unity's NavMesh and custom scripts, enabling responsive and believable enemy reactions
- Crafted an onboarding experience through an interactive tutorial with context-sensitive triggers and feedback, significantly reducing the learning curve

**Droplet Lab - Interactive Surface Tension Measurement Demo** [link] Jul 2024 – Sep 2024
- Technologies used: Python, Flask, JavaScript, HTML, CSS, C++, RESTful APIs, Caching strategies
- Architected a full-stack solution with a Flask backend and JavaScript-driven frontend, integrating image processing via C++ modules for real-time performance
- Enabled precise calibration using interactive sliders, dynamic annotations, and real-time visual feedback, improving usability for researchers and educators
- Facilitated collaboration and data sharing with RESTful APIs and modular architecture, allowing easy integration into existing scientific workflows

## Education

Master of Science in Computer Science, Georgia Institute of Technology, 2026
Bachelor of Science in Computer Science, Oregon State University, 2024
Master of Applied Science in Mechanical Engineering, University of Toronto, 2018
Bachelor of Engineering in Mechanical Engineering, 2015