

# Vaibhav Kulkarni

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## SUMMARY OF QUALIFICATIONS

Software developer with experience building and deploying mobile-friendly web applications, integrating cloud APIs, and designing intuitive user interfaces. Strong programming foundation in Python, JavaScript, Bash, and cloud-based architectures, with extensive experience in workflow automation and data-driven feature development. Adept at translating functional requirements into robust technical solutions, validating application quality, and iterating rapidly in user-focused environments. Seeking to contribute to RBCx's mission through scalable Android development, clean UI design, and disciplined product craftsmanship.

## TECHNICAL SKILLS

- Android Development: Kotlin (in progress), Java, Android Studio, Jetpack Compose (learning), REST APIs, Material Design principles
- Web & App Development: HTML, CSS, JavaScript, responsive UI/UX, interactive map interfaces
- Cloud & APIs: Google Cloud APIs (Maps, Geocoding, Places), serverless integration, authentication
- Software Engineering: Git/GitHub, CI/CD familiarity, requirements documentation, testing workflows
- Programming: Python, R, Bash, workflow automation, data pipelines, analytics & metrics tracking
- DevOps & Compute: Docker, containerization, HPC/SLURM workflow design for large-scale tasks

## PROJECT EXPERIENCE

### Software Developer — [Field Trip Web Application](#) (Independent Project)

2024

- Designed and deployed a mobile-optimized, interactive web application to streamline logistics for university field trips, enabling instructors to visualize routes, locations, and metadata in real time.
- Built a clean, responsive interface using HTML, CSS, and JavaScript, ensuring seamless functionality on Android mobile browsers.
- Integrated Google Cloud APIs (Maps, Places, Geocoding) to deliver dynamic routing, geospatial rendering, and enhanced user interactions.
- Automated recurring data operations via Python and Bash, ensuring consistent updates to map layers, points of interest, and trip metadata.
- Established analytics hooks to monitor usage behaviour, evaluate UI flow, and support iterative design improvements.
- Produced complete technical documentation and Git-based version control processes for maintainability, reproducibility, and future feature expansion.

## SOFTWARE AND TECHNICAL EXPERIENCE

### Graduate Researcher — Bioinformatics (Software & Data Engineering)

University of Ottawa

2023–Present

- Designed and implemented large-scale data-processing pipelines involving Python, R, Bash, and HPC resources to analyze viral genomic datasets.
- Developed modular tools for sequence analysis, file management, parallelized workloads, and automated reporting.
- Built interactive visualizations and web-ready graphics to communicate complex datasets to diverse audiences.
- Documented software environments, dependencies, and workflows to ensure reproducibility and transparent versioning.
- Collaborated across research groups, applying structured problem-solving and agile iteration to refine tools and analyses.

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**Lab Demonstrator (Technical Instructor)**  
**University of Ottawa**

**2023–2025**

- Delivered technical demonstrations and hands-on instruction across microscopy, molecular biology, and data-analysis tools to 80+ students per term.
- Managed multiple concurrent lab sections, offering troubleshooting guidance and iterative feedback on experiments and workflows.
- Evaluated 300+ lab reports with consistency and attention to clarity, precision, and scientific standards.

**Software-Focused Leadership & Mentorship**

**Founder — uOttawa Academic Support Discord Server (1,500+ members)**

**2020–Present**

- Built a large-scale, community-driven platform for academic support, integrating automated bots and structured channels.
- Organized regular virtual sessions, improving peer-to-peer knowledge sharing and collaborative problem solving.

**EDUCATION**

**Master of Science in Biology (Bioinformatics),**  
*for Dr. Stéphane Aris-Brosou @ The University of Ottawa, ON*

**Sep 2023 - present**

- Research that leverages bioinformatic tools to unravel evolutionary relationships among viruses, contributing to a deeper understanding of viral species diversity.
- Scholarships and Awards: Roger Guindon Scholarship Fund for Community Involvement
- Expected Graduation: September 2025

**Honours Bachelor of Science in Biology,** Magna Cum Laude,  
*The University of Ottawa, ON*

**Sep 2019 - Apr 2023**

- Honours research, advanced course projects in molecular biology, cell biology, microbiology, and bioinformatics, with hands-on laboratory techniques, data analysis, and scientific communication
- Scholarships and Awards: Undergraduate International Education Bursary

**CERTIFICATIONS**

**Compute Canada HPC Cluster Training,**  
**Workplace Hazardous Materials Information System Certification,**  
*The University of Ottawa, ON*

**Aug 2023**

**Aug 2022**

**COMMUNITY ENGAGEMENT**

**Professional Development Officer;** Biology Graduate Students' Association, **Oct 2024 - present**  
Developing career-focused workshops on risk identification, equipping graduate students with skills in resilience, academic planning, and effective career decision-making

**Graduate EDI Representative;** Faculty of Science @ uOttawa, **Oct 2024 - present**  
Advocating for inclusivity and leading outreach to support 500+ underrepresented student voices at the university

**SCHOLARSHIPS AND AWARDS**

**Deans Honor List,** University of Ottawa, ON **Sep 2019 - Apr 2023**  
**Undergraduate International Bursary,** University of Ottawa, ON **Sep 2019 - Apr 2023**  
**Roger Guindon Scholarship Fund for Community Involvement,** University of Ottawa, ON **2024**  
**Finalist for uOGRADflix 2025,** University of Ottawa, ON **2025**

**INTERESTS AND ACTIVITIES**

- Dedicated to personal fitness through weightlifting, sprint training, and meditation