






Winnie Dariska Domkem Kameni

 **Ottawa, ON, Canada**  kameniwinny@ieee.org  [+1 581-309-7960](tel:+15813097960)  [linkedin.com/in/winny-kameni-194349185](https://www.linkedin.com/in/winny-kameni-194349185)  winny-portfolio-1.vercel.app **Citizenship:** Canadian (Eligible for TN Visa – U.S.) **Languages:** English · French · German (fluent)

PROFESSIONAL SUMMARY

Innovative and multidisciplinary engineer combining IT, optics, and biomedical systems expertise. Final-year Bachelor of Information Technology student specializing in **Optical Systems & Sensors** with research and industry experience at the **National Research Council Canada (NRC)** and **Carleton University**. Proven ability in **optical communication**, **digital signal processing**, and **AI-based biomedical analysis**. Passionate about advancing technology for communication and healthcare systems through R&D and leadership.

CORE SKILLS

Technical: MATLAB · Python · C++ · Rust · Zemax · LabVIEW · Arduino · Fusion 360 · Power BI · JIRA · GitHub

Domains: Optical design · Free-space & fiber communication · DSP · Machine learning · Sensor integration · Embedded systems

Professional: Requirements management · Testing & validation · Statistical analysis · Technical documentation · Team leadership · Bilingual communication

EDUCATION

Carleton University — Bachelor of Information Technology (BIT), Optical Systems & Sensors
Ottawa, Canada | Expected May 2026

- GPA** 11.88 / 12 (A+ Standing) · Dean's List (2022–2025)
 - Relevant Courses:** Optical Communication Networks, Circuits & Signals, DSP, Assembly Language, Probability, Machine Language
 - Awards:** IEEE Canadian Foundation Scholarship (2024–2025), Amplify Immersion Scholarship (2023–2024)
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RESEARCH & ACADEMIC EXPERIENCE

National Research Council Canada (NRC) — Research Student, Free-Space Optical (FSO) Communication Systems
Ottawa, Canada | Sept 2025 – Present

- Developing **FSO communication systems** for rural and remote connectivity.
- Modeling optical link reliability and optimizing transmitter/receiver alignment.
- Performing DSP-based signal calibration and real-time testing in atmospheric environments.

Carleton University — Research Assistant, Biomedical Signal Processing
Ottawa, Canada | Sept 2024 – Present

- Designed **ECG denoising and AI-based cardiovascular disease detection** systems.
- Implemented **Wiener** and **wavelet** filters; improved SNR and classification accuracy.
- Integrated wearable ECG sensors with embedded microcontrollers for real-time inference.

Carleton Optical Innovation Lab — Research Assistant (Fiber Grating & Optical Systems)
Ottawa, Canada | Sept 2024 – Apr 2025

- Conducted **fiber-Bragg grating experiments** under Dr. Christopher Smelser.
- Engineered experimental setups, debugged hardware/software, and prepared technical reports and posters.

Carleton University — Teaching Assistant (Data Structures & Digital Signal Processing)
Ottawa, Canada | Sept 2025 – Present

- Delivered labs and lectures; guided students through **DSP, Fourier/Z-transforms**, and algorithmic analysis.
 - Supported course delivery, grading, and mentoring for Optical Systems & Sensors students.
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INDUSTRY EXPERIENCE

Xplore Inc. — Technical Support Specialist
Ottawa, Canada | Jul 2023 – May 2024

- Diagnosed and resolved complex issues in **fiber-optic and satellite** communication systems.
- Ensured high service reliability and customer satisfaction for rural broadband clients.

Gexel (Cogeco) — IT Help Desk Technician
Ottawa, Canada | Aug 2022 – Apr 2023

- Resolved hardware/software incidents; maintained **fiber-optic network performance** and device connectivity.

LGM Solutions — IT Technician
Ottawa, Canada | Feb 2022 – Jun 2022

- Assembled and configured computer systems and networks; maintained system integrity across client sites.

Snipes — Research Assistant (Market & Technical Research)
Cologne, Germany | Jun 2021 – Oct 2021

- Conducted research on **retail operations and inventory optimization**; analyzed data and supported process improvements.

CoinPay (Bhent Inc.) — Trader & IT Assistant
Yaoundé, Cameroon | Sept 2020 – Apr 2021

- Facilitated cryptocurrency exchange operations and contributed to **web development projects** using HTML/CSS/JavaScript.
- Produced technical and translation documentation for the Bhent Inc. team.

Bhent Inc. — Junior Frontend Developer
Yaoundé, Cameroon | Aug 2019 – Jun 2020

- Developed and assembled **drone swarm platforms** with multi-drone control and sensor data collection.
- Programmed Ardupilot & GAZEBO simulations, enabling synchronized flight tests and 2D/3D visualization.

PROJECT HIGHLIGHTS

- **Optical Lens & Y-Coupler Fabrication:** 3D-printed aspheric lenses and fusion-spliced fiber Y-couplers; measured efficiency & aberration data.
- **Zemax Optical Designs:** Optimized telescopes and lens assemblies for specified focal criteria.
- **Arduino Sensor Prototypes:** Built and programmed sensor-integrated Arduino prototypes for signal and actuator control.
- **AI Cardiovascular Monitoring:** Developed signal processing and ML pipeline for real-time ECG classification.

CERTIFICATIONS & AWARDS

- **Ethics Certification for Human Research Trials** — Panel on research ethics (2025)
- **Clarence C. Gibson Scholarship** (2023–2024)
- **Claude Bissell Scholarship** (2024–2025)
- **Anthony Whitehead Memorial Scholarship** (2024–2025)
- **IEEE Canadian Foundation Scholarship** (2024–2025)
- **Amplify Immersion Scholarship** (2023–2024)
- **Dean's Honour List** — Carleton University (2023, 2024, 2025)
- **WHMIS & OHSA Certified**

ADDITIONAL INFORMATION

- Open to relocation — Canada · U.S. · Europe
- Interested in R&D, Optical/Biomedical Systems, and Technology Management roles
- Active IEEE Student Member, Optica Member and SPIE Member