

Cam Bass

B.Sc. Biology & Software Development (UVic 2025). Located in Victoria, BC, willing to relocate.

>> Experienced Biologist & Computational Geneticist seeking vocation in Health & Biotechnology field

Research Experience

Member, UVic Biotech Club: Dr. Fran Nano's Lab, University of Victoria (*September 2024 - Present*)

- Collaborative club with the aim to develop a line of bioplastic-generating genetically modified E. coli. Supervised by Dr. Fran Nano and supported by Dr. Derek Jacoby.
- Responsibilities include coordinating meetings and managing the bioreactor team, and implementing code and processes to optimize bioplastic production.
- Monitored and advised safe use of equipment, generating safety protocols and team presentations.

Lab Technician (Part-time): Dr. J. Ehltling's Lab, University of Victoria (*Sept 2024 - Present*)

- Performing laboratory *in vivo* and *in silico* work to assist a project focused on culturing and isolating fungal competitors to Swiss needle cast, a widespread fungal infection in coastal Douglas fir trees.
- Daily tasks included laboratory preparation, sample organization, equipment cleaning and sterilization, culturing endosymbiotic fungi, DNA extraction from fungal cultures, and process troubleshooting.

Directed Studies - Quillback Rockfish Sex Genetics: Dr. Greg Owens' Lab, University of Victoria (*Summer 2024*)

- Investigated sex chromosome differentiation bioinformatically to identify the genomic loci of sex-specific traits in Quillback rockfish. Led by Dr. Owens to identify enriched K-mers in a GWAS.
- Analyzed large genetic datasets through online servers and performed statistical tests to correlate genetic markers with phenotypes. Generated a report and delivered a presentation on project results.

Lab Assistant: Dr. Greg Owens' Lab, University of Victoria (*Summer 2023*)

- Assisted in developing bioinformatics tools for streamlined genetic analysis including Python, UNIX systems, SAMtools, Bowtie, Bwa, PLINK and R. Participated in weekly lab meetings and discussions.
- Gained experience with various bioinformatic workflows including large dataset filtration, quality control, variant calling, GWAS, and database setup and management with CLI and GUI software.

Computation & Programming Skills

Software Development: 6+ years experience programming with **Java**, C, C++, and HTML, 3 years experience programming with **Python**, **R**, and **UNIX**. Skilled in object-oriented, functional, and structured programming paradigms, in CLI- or GUI-based coding environments. Comfortable using many data formats (**VCF**, **FASTA**, **BED/PED**), and local, **Git**, and cloud hosted data. **50 WPM typing speed**.

Bioinformatics Tools: 3 years experience developing and executing scripts for genomic data analysis, using tools like **PLINK**, **SAMtools**, and **BWA**, and 2 years experience handling large genomic datasets in remote computing servers. Skills include performing **genome assembly**, **variant detection**, **Quantitative Trait Locus (QTL) analysis**, and **Genome-Wide Association Studies (GWAS)**.

Data Management & Communication: Effective and adept communicator, proficient at adapting to serve the current audience. Experienced in **Microsoft Office** products such as **Excel** for data organization and analysis. Capable of generating visual and written data reports and managing datasets in diverse formats. Proficient in **Adobe** products, including Photoshop, Premiere Pro, and Animate, with creative skills in video editing, graphic design, and visual aid development for presentations and reports.

Lab Skills

Standard biohazard and safety protocols ⬡ Study design ⬡ Care of aquatic and terrestrial animals
⬡ Maintenance of bacterial, plant, and fungal cultures ⬡ Use of pipettes ⬡ Tissue staining and fluorescent marker analysis ⬡ Tissue dissection ⬡ Sterile media preparation ⬡ Microscopy ⬡ Cell fractionation DNA, RNA, & protein extraction, isolation, and sequencing ⬡ Plasmid preparation ⬡ Targeted genome mutagenesis ⬡ Mutation screening ⬡ RNAi knock-down ⬡ ELISA ⬡ PCR ⬡ Gel electrophoresis ⬡ TLC ⬡ Spectrophotometry ⬡ Assay analysis

Professional Experience

Lifeguard & Swim Instructor

City of Surrey (Feb–Sept 2022),
City of Delta (June–Sept 2022),
City of Victoria (Sept 2022–),
City of Saanich (Sept 2022–)

- Responsible for on-site first aid, safety enforcement, patron management, training junior lifeguards, and developing and implementing lesson plans for swimmers with a variety of ages and skill levels.
- Proud advocate of fun and respect in youth fitness to promote lifelong health and wellness.

Administrative Assistant & Social Media Manager - CIBC Wood Gundy
(May – Sept 2022)

- Managed daily administrative tasks, scheduling client appointments and creating confidential financial reports. Redesigned client segmentation and filing systems. Managed professional social media.

Cashier - Real Canadian Superstore
(March – August 2021)

- Operated POS systems, managing 30+ transactions per hour. Assisted with store maintenance and customer service.

Soft Skills

- ➔ **Dedication to Learning:** Lifelong passion for learning in both biological sciences and computer programming, with a commitment to continuously expanding knowledge and skills. Strong work ethic and motivation to succeed in the rapidly evolving field of genetics and bioinformatics, with a focus on addressing genetic components of human disease, especially in underserved populations.
- ➔ **Problem-Solving and Critical Thinking:** Experience independently troubleshooting and resolving complex issues, from managing bioinformatics workflows to handling critical rescue operations in the pool as a lifeguard. Capable of thinking quickly in emergent and sensitive situations, making informed decisions to ensure safety and procedure adherence, provide direction, and maintain calm under pressure.
- ➔ **Professionalism and Ethical Responsibility:** Ability to handle sensitive situations with integrity, and adhere to professional standards and ethical guidelines in medical, scholastic, and scientific contexts.
- ➔ **Leadership, Teamwork, Empathy and Communication:** Experience leading teams and mentoring junior members, fostering a supportive and collaborative environment. Comfort communicating complex biological and technical concepts to peers and non-specialists

Awards

BC Provincial Achievement Scholarship (Merit-based)

\$1,250 CAD (annual, 2021-2025)

UVic Biotech Research Honorarium (Application-based)

\$1000 CAD (one time only, 2024)

CPF Core French Award (French essay application)

\$300 CAD (one time only, 2021)

University of Victoria Entrance Scholarship (Merit-based)

\$3000 CAD (one-time only, 2021)



Fully vaccinated against COVID-19

REFERENCES AVAILABLE UPON REQUEST