

PETER LOVERSO

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PROFESSIONAL SUMMARY

Software engineer and molecular biologist with extensive experience in computational biology (5.6 years) and robotics (5.5 years). Primary developer of motion planning systems for robotic arms, with expertise spanning algorithm research, implementation, and team leadership. Strong background in algorithm development, pipeline architecture, and large-scale data processing from bioinformatics work. Proven track record of building complex systems from the ground up and translating research into production software.

WORK EXPERIENCE

Heritage Apple Corps

Project Lead (volunteer position, unpaid) | Feb 2026 - Present | Bend, OR

- Created parallel tree registries (private and public land) to catalog location, condition, and history of heritage fruit trees around Central Oregon
- Created the Variety Encyclopedia, a searchable database of over 9000 heritage fruit varieties created from period book sources, including images, descriptions, and other notes focusing on identification
- Led the project to acquire fiscal sponsorship by Discover Your Northwest

Viam

Staff Software Engineer | Feb 2024 – Jun 2026 | Bend, OR

- Primary developer for motion planning across the entire Viam robotics platform, working on the motion planning team
- Built complete motion planning stack from scratch in Go, including spatial mathematics library and planning algorithms
- Developed end-to-end surface finishing pipeline including image processing, stitching, model smoothing, toolpath generation, and motion planning for robotic arms
- Built demo that secured first large paying customer for surface finishing capabilities
- Specialized in xArm and Universal Robots (UR5/UR20) manipulator systems

Senior Robotics Software Engineer II | Jan 2023 - Feb 2024

- Continued as primary technical expert for motion planning on the team
- Developed and refined core motion planning algorithms and infrastructure in Go

Robotics Engineering Lead | Mar 2022 - Jan 2023

- Led motion planning team with 2 direct reports while maintaining primary technical contributor role
- Served as subject matter expert for motion planning architecture and implementation

Robotics Engineer | Dec 2020 - Mar 2022

- Sole motion planning engineer at Viam, building foundational spatial math libraries from scratch and writing motion planning algorithms from research papers to interoperate with the Viam platform
- Researched, implemented, and optimized CBiRRT (constraint-satisfying RRT) algorithm for robotic arm planning

Central Oregon Tool Library

Co-Founder (volunteer position, unpaid) | Apr 2025 - Present

- Co-founded and continue to operate community-funded, non-profit tool library in Central Oregon

Bee Ring (Startup)

Co-Founder, Technical Lead | Mar 2023 - Jan 2024 | Concurrent with Viam

- Designed and built smart beehive monitoring systems from concept to prototype
- Designed custom PCB for improved battery life and system efficiency
- Programmed all embedded system components and sensor integration

Personal Genome Diagnostics

Principal Software Engineer | Jul 2020 - Dec 2020

- Developed bioinformatics software for cancer tissue and plasma sample analysis to identify mutations and immunotherapy targets
- Scaled processing pipelines to increase throughput by several orders of magnitude
- Developed novel variant calling methods where existing off-the-shelf solutions were insufficient

Bioinformatics Software Engineer II | Nov 2017 - Jul 2020

- Built and optimized NGS data pipelines for genomic and transcriptomic analysis
- Developed data management systems and custom analysis workflows
- Worked on PGDx elio plasma resolve, first liquid biopsy cancer diagnostic panel to receive FDA approval

Bioinformatics Software Engineer I | Jun 2015 - Nov 2017

- Implemented variant calling pipelines for clinical cancer genomics applications

Rochester Institute of Technology

Bioinformatics Graduate Researcher | Feb 2013 - May 2015 | Rochester, NY

- Developed algorithms in R, Java, and Python to analyze p53 response elements and nucleosome positioning
- Created cross-species transcriptomic analysis pipeline for neural cell RNA-seq data

TECHNICAL SKILLS

Programming Languages

Go (primary), Python, Perl, R, bash, Java, D, C, C++

Robotics

Motion planning algorithms (CBiRRT), spatial mathematics, robotic arm control, toolpath generation, surface finishing, xArms, Universal Robots (UR5/UR20)

Systems & Tools

gRPC, Git, Linux systems, embedded systems, PCB design

Bioinformatics

RNA-seq analysis, NGS data processing, variant calling, pipeline development, sequence alignment, quality control metrics

EDUCATION

Master of Science, Bioinformatics

Rochester Institute of Technology | Graduated May 2015 | GPA: 3.81

Thesis: Trans-species Transcriptomic Comparison of in vitro and in vivo Neural Cells

Bachelor of Science, Molecular Bioscience and Biotechnology

Rochester Institute of Technology | Graduated May 2013 | GPA: 3.47

SELECTED PUBLICATIONS

Wood, D. E., et al. "A machine learning approach for somatic mutation discovery." *Science Translational Medicine* 10.457 (2018).

LoVerso, P. R., & Cui, F. "Cell type-specific transcriptome profiling in mammalian brains." *Frontiers in Bioscience (Landmark Edition)* 21 (2016): 973.

LoVerso, P. R., & Cui, F. "A computational pipeline for cross-species analysis of RNA-seq data using R and Bioconductor." *Bioinformatics and Biology Insights* 9 (2015): 165.

AWARDS

- MS Honorable Mention Award – Rochester Institute of Technology (October 2017)
- Eagle Scout – Boy Scouts of America (August 2009)