

Skills & Projects

Product Development:

Can translate scientific research needs into well-architected, modular software systems.

1. AI & ML Product Development

- Designing AI features with product thinking
- Applying AI components where they improve workflow efficiency or insight
- Projects:
 - [AI Products](#)
 - [VADE](#)

2. Tool & Workflow Design

- Design tools that simplify complex scientific analyses
- Transforming research workflows into modular, reusable pipelines
- System design for computational analysis tools
- Projects:
 - [Data Analysis Tool](#)
 - [VADE](#)

3. User Centric Interface Design

- Translated stakeholder needs into clear technical design decisions
- Designing UI/UX for scientific applications
- Projects:
 - [Data Analysis Tool](#)
 - [Redesigns](#)

4. Full Product Lifecycle

- Functional prototypes, deployed apps, and proof-of-concept tools
- Projects:
 - [Data Analysis Tool](#)

Technical Foundations:

Can apply core tools, languages, and scientific workflows to build robust computational applications.

1. Bioinformatics

- Developed and automate pipelines using **Python, R, Linux/Unix, Perl, Bash** and **Java** ([Data Analysis Tool](#))
- Experienced with **RNA-Seq** and **Single-Cell Sequencing** analysis workflows
- Experienced with **TaqMan chemistry** and its design principles
- ML pipelines for cell morphology ([Internship project](#))

2. AI & ML Integration

- Integrating NLP, ML, and RAG pipelines into analysis tools ([Data Analysis Tool](#), [AI Products](#))

3. Full Stack App Development

- **FastAPI**: modular backend APIs ([Data Analysis Tool](#), [VADE](#))
- **Streamlit**: interactive scientific apps ([Data Analysis Tool](#))
- **React**: responsive frontend interfaces for research tools ([VADE](#), [Redesigns](#))

4. Systems & HPC

- HPC job scheduling (SLURM/PBS), debugging, performance optimization
- Linux (RedHat/CentOS) system management
- C/C++ compilation for scientific software, building binaries

5. Version Control & Collaboration

- Git, Docker