

# Skills & Projects

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## 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