

# Dr. Craig N. Yanitski

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## Introduction

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Much of the development of my coding skills have been accomplished on my own throughout the development process of my code, `kosmatau3d`. This has required me to learn quickly and adapt my approach according to the needs of the project. While my experience thus far has been in science, my ability to learn on-the-job is of great use as I now transition to industry. I look forward to building my skills as a part of your team.

## Computing Programs / Languages

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Python • Golang • C/C++ • Java • Javascript • assembler (*if necessary*) • bash/zsh/dash •  
Make • Markdown/HTML/YAML • SQL • GIS

## Professional Skills

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Data Science • Machine Learning • Software Engineering • Agile Development • Statistics •  
Mathematics • Calculus • Science Communication

## Employment

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### **Mercor / Outlier**

*Software engineer / physicist*

- human feedback for reinforcement learning
- evaluation of prompt responses
- evaluation of LLM reasoning

### **I. Physikalisches Institut, Universität zu Köln**

*2019—2024*

*Research assistant / guest researcher*

- use statistical methods (including machine learning processes) to find trends in large datasets
- assistance in management of a non-relational database
- push computationally-heavy scripts to a computing cluster
- teach statistics to 100 Master-level students
- host software workshops for colleagues (Ph.D. and postdoc level)

### **Crop Diversification Centre—North**

*2014—2017*

*Summer student*

- run and record results from field experiments (plant pathology)
- organise survey trips throughout Alberta

## Education

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<b>boot.dev</b> <i>Back-end development career path</i>	<i>2024—present</i>
<b>I. Physikalisches Institut, Universität zu Köln</b> <i>Doctorate in Astrophysics (2023)</i>	<i>2019—2023</i>
<b>Radboud Universiteit Nijmegen</b> <i>Master's Degree in Physics and Astronomy (2019)</i>	<i>2017—2019</i>
<b>University of Alberta</b> <i>Bachelor's Degree in Science with Honours in Astrophysics (2017)</i>	<i>2012—2017</i>
<b>Northern Alberta Institute of Technology</b> <i>Diploma in Electronics Engineering Technology (2012)</i>	<i>2010—2011</i>

## Projects

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<b>mescli</b> (Golang/PostgreSQL) – a CLI encrypted messaging service (in alpha stage) – full end-to-end encryption – double ratchet send and receive KDF chains – monolithic server – skills: <b>Golang, SQL, backend development, frontend development, cryptography</b>	<i>2024—present</i>
<b>kosmatau3d</b> (python) – a novel simulation of the emission from interstellar gas – ray tracing through voxels (3D pixels) – interfacing with remote database – skills: <b>Python, backend development, statistics, data science, calculus</b>	<i>2019—present</i>
Various projects in computational astrophysics – skills: <b>statistics, data science</b>	<i>2016—2019</i>
Various <b>electronics</b> projects (robots, sensors, etc.)	<i>2010—2011</i>

## Volunteering

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Various presentations and initiatives explaining science to the public	<i>2018—2024</i>
<b>Safewalk (University of Alberta Student Union)</b>	<i>2012—2017</i>
Reach Out Volunteers	<i>2014</i>