

JACOB VAVERKA

HPC Software Developer

Lifelong learner striving to stay curious.

PROFESSIONAL EXPERIENCE

Present
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2021

● Sales Engineer

JuliaHub, Inc.

📍 Remote

- Industrial modeling simulations running on distributed systems.
- Integrator of Scientific Machine Learning (SciML) capabilities with large-scale industrial models.
- Contributor to key software offerings for modeling and simulation framework, JuliaSim.
- Writer of JuliaSim Surrogates documentation for accelerating expensive models.
- Creator of demonstrations using JuliaSim on JuliaHub to execute simulations on cloud-compute.
- Trained customers on Julia, SciML and JuliaSim packages.

2021
|
2018

● HPC Application Developer

General Motors

📍 Detroit, MI

- Engineered desktop application built on [Computational Model Builder](#).
- Back-end HPC applications interfacing with desktop application.
- Back-end applications for encrypted file transfer across High Performance Compute environment.
- Elasticsearch pipeline to capture and monitor simulation job metrics.
- Data transformation pipeline to compile, submit and run OpenFOAM simulations for various CFD engineering groups.
- *In situ* and *situ* visualizations built on ParaView.
- Implementer of engineering proof-of-concepts into production applications.
- Leader of small teams to complete various project objectives.

2018
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2017

● Decision Support Analyst

General Motors

📍 Roswell, GA

- Large-scale queries for global market communication and Customer Relation Management.
- Complex data pipelines in SQL, Bash and Awk on OpenSUSE.
- Carefully implemented data protection practices.

2017
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2016

● Systems Developer

General Motors

📍 Roswell, GA

- Global sales intelligence and planning for all GM brands.
- Built and managed end-to-end ETL pipeline.
- Delivered key performance indicators and aggregate reports.
- Fast-paced agile environment with face-to-face customer interaction.



CONTACT

 [jvaverka.github.io](https://github.com/jvaverka)

 [jvaverka](#)

 [jacob-vaverka](#)

SKILLS

Modeling dynamic systems.

Creating insightful visualizations.

Maintaining HPC systems.

Building full-stack & desktop apps.

Leading diverse technical efforts.

Built with [pagedown](#).

Last updated Aug 07, 2023.

OPEN SOURCE CONTRIBUTIONS

2023
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2022

● **SciML Open Source Scientific Machine Learning**

 Remote

- Built website for [SciML Book](#) MIT Course 18.337J / 6.338J.
- [Documentation updates and fixes](#) for `DiffEq.jl`.

2022
|
2021

● **Julia Ecosystem**

 Remote

- [Documentation fix](#) for `AbstractGPs`.
- [Documentation update](#) for `Franklin.jl`.
- [Documentation fix](#) for `Literate.jl`.

2021
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2020

● **LunarVim**

 Remote

- Added [language server support](#) for Julia.
- Added [documentation for using julia language server](#).
- Added [documentation for using julia language server](#).

Fun fact: I like puzzles. In high school I learned to solve a [Rubik's Cube](#) and got pretty fast at solving it (best ~45 seconds). Years later I was gifted a [Megaminx](#) - a dodecahedron shaped puzzle with 12 faces and 50 movable pieces - and used only my knowledge of the standard 3x3 Rubik's Cube to solve it in 1 day.

TECHNICAL SKILLS

● **Languages and Frameworks**

 

Through personal and professional projects I have learned and explored many programming languages and frameworks. Below is a list showing some of these languages sorted by proficiency (advanced to functional).

• **Language**

- Julia
- JavaScript
- Python
- C++
- Java
- Ruby
- R

• **Framework**

- `ModelingToolkit.jl`
- Shiny
- React
- Rails
- Dash
- VTK
- Qt

[Clifton Strengths](#)

Learner
Ideation
Futuristic
Achiever
Intellection



CONTINUED LEARNING

- | | | |
|------|--|----------|
| 2022 | ● Advanced Statistical Regression
Johns Hopkins University | 📍 Remote |
| 2021 | ● Mathematics of Finance
Johns Hopkins University | 📍 Remote |
| 2019 | ● Matrix Theory
Johns Hopkins University | 📍 Remote |
| 2019 | ● Statistics and Data Analysis
Johns Hopkins University | 📍 Remote |

Follow my [continuous learning projects](#) in fields like applied math, modeling / simulation, web dev and more.



CERTIFICATIONS

- | | | |
|------|---|----------|
| 2015 | ● Actuarial Science
Exam P: Probability | 📍 Remote |
|------|---|----------|

Before landing my first IT job, I planned to pursue a career in actuarial science.



EDUCATION

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|-------------------|--|--------------|
| 2013

2009 | ● Bachelor of Science in Mathematics
University of Georgia | 📍 Athens, GA |
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