JACOB VAVERKA

Software Developer

Solving problems and puzzles with math, science and technology.

💼 PROFESSIONAL EXPERIENCE

Sales Engineer

JuliaHub, Inc. 📍 Remote

- Contributor to industrial models and simulations run on distributed systems in many domains.
- Integrator of Scientific Machine Learning (SciML) capabilities with large-scale industrial models.
- Translator of customer needs into features for modeling and simulation framework, JuliaSim.
- Writer of JuliaHub & JuliaSim technical documentation.
- Demonstrator of JuliaSim to accelerate, execute, and analyze simulations on JuliaHub.
- Trainer customers on Julia, SciML and JuliaSim packages.

Present | 2021

HPC Application Developer

General Motors 📍 Detroit, MI

- Engineer of desktop application built on top Computational Model Builder.
- Engineer of back-end applications for encrypted file transfer across High Performance Compute environment.
- Contributor to Elasticsearch pipeline to capture and monitor simulation job metrics.
- Engineer of front-end application and data transformation pipeline to compile, submit and run OpenFOAM simulations for various CFD engineering groups.
- Implementer of *In situ* and *situ* visualizations built on ParaView.
- Leader of small teams to complete targeted project deliverables.

2021 | 2018

Decision Support Analyst

General Motors 📍 Roswell, GA

- Builder of complex queries and data pipeline for large-scale, global market communication and Customer Relation Management.
- Guardian and learner of data protection regulations and best practices.

2018 | 2017

Systems Developer

General Motors 📍 Roswell, GA

- Developer of global sales intelligence and planning tools for all GM brands.
- Builder and maintainer of end-to-end ETL pipeline using R, SQL, and relational databases.
- Gatherer and slicer of key performance indicators and reports using R, SQL and IBM proprietary front-end tools.
- Gatherer of requirements and leader of discussion in fast-paced, agile environment with face-to-face customer interaction.

2017 | 2016

CONTACT

🔗 jvaverka.github.io

 jvaverka

in jacob-vaverka

SKILLS

Modeling dynamic systems.
Creating insightful visualizations.
Maintaining HPC apps & systems.
Building full-stack & desktop apps.
Leading diverse technical efforts.

*Built with **pagedown**.*

Last updated Nov 08, 2023.

🔓 OPEN SOURCE CONTRIBUTIONS

Evolving ●

Open-source Contributions
For Fun & No Profit   📍 Remote

A short list of open-source projects that I have made small contributions to in the form of documentation, tests or small features.

- DiffEq.jl
- AbstractGPs.jl
- Franklin.jl
- Literate.jl
- LunarVim

🌐 📘 I built the SciML Book website for MIT Course `18.337J / 6.338J`

</> TECHNICAL SKILLS

Evolving ●

Languages and Frameworks
For Fun & Potential Profit   📍 Remote

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*	• *Framework*
• `Julia`	• `ModelingToolkit.jl`
• `JavaScript`	• `Shiny`
• `Python`	• `Dash`
• `R`	• `Rails`
• `Ruby`	• `React`
• `C++`	• `VTK`
• `Java`	• `Qt`

📕 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

✳️ CERTIFICATIONS

2015 ● **Actuarial Science**
Exam P: Probability   📍 Remote

🎓 EDUCATION

2013
|
2009 ● **Bachelor of Science in Mathematics**
University of Georgia   📍 Athens, GA

Fun fact

You can follow my continuous learning projects in fields like applied math, modeling / simulation, web dev and more.

Fun fact

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