

# Geometry programmer (short-term contract)

Metabolize seeks a software developer – at any level – to transform written definitions of measurements to be taken on virtual 3D objects into a Python domain-specific language, and evaluate and iterate on the results. Evaluation of the results is primarily qualitative and iterative, and involves reviewing results on a test corpus with a subject-matter expert, refining the implementation until the results are excellent. Precise results and production-quality code and documentation are expected.

The framework for expressing the measurements already exists; the remaining work is primarily putting the framework to work, and leaving behind clear implementations and careful documentation. If you like geometry and 3D this is fun work; it's one kind of brain candy.

This is for a client project which runs approximately March through May, with the bulk of the work happening in April and May.

This position is open to developers of any experience level, from entry to senior.

Are you part of a community underrepresented in tech? Metabolize welcomes you. You're *especially* encouraged to apply. 🏳️‍🌈 🙋 🇺🇸 🌈 🙌

## What we expect if you're a senior-level developer

- 3+ years software-development experience
- Strong problems-solving skills and comfortable solving geometric problems algorithmically
- Ability to think in 3D: to reason about axes, vectors, and planes in 3D space
- Attentive to visual detail, and comfort refining algorithms based on results from evaluation datasets
- Experienced with polygonal meshes, computer graphics, 3D game engines, or 3D modeling a plus
- Python and NumPy experience a plus
- Comfortable with the metric system and experience with human body measurements a plus

## What we expect if you're an entry-level / junior developer

- Strong problem-solving skills and comfort with algorithmic problem solving
- Either:

- 1+ years software-development experience, preferably including experience with dynamically-typed languages
- Or:
  - A degree in computer science or mathematics
  - Familiarity with Python and Python debugging
- Ability to think in 3D: to reason about axes, vectors, and planes in 3D space
- High attention to visual detail, and comfort refining algorithms based on results from evaluation datasets
- Comfortable with high-school math (algebra, geometry, trigonometry); some college-level math (calculus and linear algebra) a plus
- Experience working with a small software system, breaking code into functions, and writing clear and explicit code with good documentation
- Experience with the command line, version control, and console debugging
- Experience with polygonal meshes, computer graphics, 3D game engines, or 3D modeling a plus
- Comfortable with the metric system and experience with human body measurements a plus
- NumPy experience a plus

### What we expect from everybody

- Willingness to be articulate about software engineering – verbally and in writing – and constructively express disagreement
- Fun to work with: collaborative spirit, learn quickly, and respond well to feedback
  - Sense of humor preferred!
- Empathy toward users and toward the developers who will use and read your code
- Balance sharing the load with other developers, and taking on new challenges
- Legally authorized to work in the United States (preferably with own business entity or LLC)
- Available 30–40 hr/wk, 3/15–6/15

### What to expect from Metabolize

- Support and respect as a software engineer and a human
- Passion: for developers, the craft, the users, and the customer
- Nuanced software-engineering judgement in support of that passion
- Compensation at hourly rate DOE

### How to apply

[https://docs.google.com/forms/d/e/1FAIpQLSe2AVrxkU9RJ9sUWugiiRLjbKuwskgZV0VpaSY3ckouK-3\\_7g/viewform](https://docs.google.com/forms/d/e/1FAIpQLSe2AVrxkU9RJ9sUWugiiRLjbKuwskgZV0VpaSY3ckouK-3_7g/viewform)

Application requires a Google Account. No agencies, please!

## About Metabolize

Metabolize is a boutique software-development company, providing application development, scientific software development, software-development consulting, and open-source development. Areas of specialty include developer tools, API design, UI/UX, and AI.

The consulting moniker of Paul Melnikow (@paulmelnikow on GitHub & Twitter), Metabolize owes its wide range to the breadth of Paul's experience. He was principal engineer and product manager at CV/AI startup Body Labs (acquired by Amazon) and has worked in manufacturing, apparel, financial services, and community development. Paul maintains Nock, the HTTP mocking framework for Node.js, and leads Shields.io, the popular community-driven status-badge service for open-source projects, among various small components and libraries.

Most of Metabolize's projects involve JavaScript, TypeScript, or Python, however technology choices are made to support individual projects. Recent projects have included NumPy, React, Three.js, Swift, and Objective-C.