Zhian N. Kamvar, PhD
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June 14, 2024

To: Reich Lab Hiring Mangager

With **more than 10 years in interdisciplinary open-source scientific software development** and a strong focus on **user support, documentation, and testing**, I am an ideal candidate for this position. I was a software engineer for The Carpentries (a non-profit in education with a large and distributed volunteer community) where I developed *The Carpentries Workbench*, **an automated, secure**, and platform-independent deployment system for their community-maintained lesson **infrastructure that has been in continuous operation since 2021**[1]. I am particularly excited to work in a role that will support public health researchers rapidly share and validate models that can help inform policies and actions that will help circumvent future pandemics.

Development experience: I have been collaboratively **developing, documenting, and testing** open source software **on GitHub since 2013** in the disciplines of population genetics, epidemiology, and education. Most recently, I was the lead for *The Carpentries Workbench*, a suite of R packages and **CI/CD workflows** designed to build, deploy, and audit reproducible data science lessons in a **secure and platform indpendent** manner. This was a ground-up redesign of the lesson infrastructure to **focus on the needs and working practices of our diverse community of >2000 volunteers**, allowing them to focus on the content of their lesson and not the tooling.

Organizational Skills I operate under a **growth mindset** and am **always learning**. The work I did in academia (2012–2020) taught me many of the organizational practices I have now. As a grad worker, I developed **project management skills** creating user-friendly scientific software[2] on **Linux** with **Git** and **CI** and performed complex simulation analyses using **automation with Python and BASH**. In my postdoctoral work, I used **Docker** for automated reproducible research[3], and was an early adopter of **GitHub Actions** for CI/CD to manage deployments with limited resources.

Leadership, Support, and Collaborations: I have **>5 years of leadership experience** through my work in the non-profit space in the R4Epis project and The Carpentries. At R4Epis (2018–2019), I **coordinated testing, development, and deployment** of software for field epidemiologists with limited computing resources. By providing intial documentation for technical configuration via offline resources along with **on-demand remote support** via synchronous and asynchronous communications, I was able to set them up for success. My work at The Carpentries (2020–2023) gave me the opportunity to hone my skills **supporting a user base through a technology transition**. Through webinars, presentations, and hands-on tutorials, I was able to **facilitate community growth** that left users feeling empowered. In 2023, as my funding was coming to an end, I **guided 3 novice colleages in code review, automation, and maintenance** of our infrastructure.

Communication skills: I am the co-founder of an award-winning **science communication podcast** where I coached graduate workers to **explain complex technical ideas** to a general audience (2012–2016). As a certified Carpentries Instructor Trainer, I have been **teaching people to work with data and code since 2014** using **evidence-based active learning principles.** And finally, much of the success for my projects lies with my ability to **write clear and concice documentation tailored to the audience**.

The experience I have gained in over a decade has given me the experience needed to be a valuable asset to the lab. I am particularly excited for the opportunity to work in the public health sector again. I would like to thank the recruitment team for consideration of my application.

Sincerely,

Zhian N. Kamvar, PhD
(Attached: Resumé, references)

[1] *The Carpentries Workbench*: https://carpentries.github.io/workbench
[2] poppr R package (Kamvar *et al.*, 2014) doi: 10.7717/peerj.281 featured in **>2000 peer-reviewed publications**
[3] Automated Research using Docker + CircleCI (Kamvar *et al.*, 2017) doi: 10.7717/peerj.4152