Dr. Zhian N. Kamvar
The Carpentries
(c/o Community Initiatives)
1000 Broadway, Suite #480
Oakland, CA 94607, USA July 28, 2023

Recruitment Team
Data Science Lab
Fred Hutch Cancer Center

I found the Software and Reproducibilty Software Developer position via a recommendation from Ciera Martinez. I am confident that I will excel in this role because in my **10 years in interdisciplinary open source scientific software development**, I have worked closely with stakeholders to build **well-tested, efficient, and user friendly tools**. I am a software engineer at The Carpentries where I just finished developing an infrastructure that supports researchers and educators in developing inclusive lessons for data science training. As my funding is coming to an end, I am looking for a position in an organisation that aligns with the core values of The Carpentries[1] and I am extremely glad to see that DaSL is such an organisation. My background in **science communication**, discipline in collaborative software engineering practices (**test driven development, CI/CD, containerization**, and project management), and **eagerness to learn and apply new skillsets** makes me an ideal candidate for this position.

My skill set lies in the intersection of software development, reproducible research, open science, and communication. **I have been collaboratively developing open source software on GitHub since 2013**. My most recent project is The Carpentries Workbench[2], a suite of R packages designed to build, deploy, and audit **reproducible data science lessons** built with R Markdown in a **platform indpendent** manner[3]. This was a ground-up redesign of the lesson infrastructure built on the principles of our core values[4] to **focus on the needs and working practices of our diverse community of volunteers**, allowing them to focus on the content of their lesson and not the tooling.

The work I did in academia gave me all the experience to produce **reproducible research**[5] and user-friendly scientific software[6]. My most successful software project is the R package *poppr*, which has been **featured in >1500 peer-reviewed scientific publications**. I strongly believe this project continues to be successful because I took a community-centered approach in its maintenance. With human-centered design, clear documentation, tutorials, workshops, and diligent forum moderation, I worked to **significantly reduce the barrier for reproducible population genetic analysis in R**.

I believe my work at The Carpentries provides a set of critical skills that will set me apart from other candidates. At The Carpentries, I was able to hone my **skills in communication and DevOps** while developing valuable **project management** techniques that allowed me to effectively coordinate the **simultaneous development and deployment** of 4 R packages, a suite of GitHub actions, and the seamless transition[7] of $>$ 50 active lessons maintained by $>$ 100 volunteer maintainers, serving $>$ 10,000 learners. anually.

The experience I have gained over the last decade has given me the technical and practical experience needed to be a successful reproducibility software developer. I am excited for the opportunity to work in a team context building workflows and tools that will support researchers with data-enabled solutions to clinical and research challenges. I would like to thank the recruitment team for consideration of my application.

Sincerely,

Zhian N. Kamvar, Ph. D.
(Attached: Resumé, references)

[1] Carpentries Core Values in our motivation, practice, and goals: https://carpentries.org/values
[2] Workbench user manual: https://carpentries.github.io/workbench
[3] Workbench developer's guide: https://carpentries.github.io/workbench-dev/intro.html#sec-remote
[4] For more, see my talk at rstudio::conf(2022): https://zkamvar.netlify.app/talk/carpentries-rstudio-2022/
[5] Reproducible Research using **CI + Docker** (Kamvar *et al.*, 2017) doi: 10.7717/peerj.4152
[6] poppr R package (Kamvar *et al.*, 2014) doi: 10.7717/peerj.281
[7] Automated lesson transition: https://github.com/carpentries/lesson-transition#readme