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To Whom It May Concern:

It is my pleasure to write a recommendation for Paul Russell. During the past year, I have supervised Paul Russell as a volunteer for GISCorps, a community-based organization that matches volunteers with projects needing GIS skills. Paul helped develop a project to digitize tree cover in Panama's Azuero Peninsula. In the Azuero Peninsula, and other tropical landscapes, measurements of agricultural tree cover will be critical for designing ecological restoration projects. However, measuring patterns of tree cover at a fine resolution is a challenging task, currently at the frontier of remote sensing. The initial project Paul started working on involved hand-digitization of tree crowns across a large area. Paul invested the time to learn the details of the landscape and persevered at the time-consuming task of hand digitization.

Paul then went above and beyond the initial task by designing an automatic digitization protocol for the landscape. This protocol represents a significant advance for digitizing tree cover, because it applies machine learning algorithms to segment tree crowns with comparable accuracy to human digitizers. Paul took the time to design an entire workflow using open access software (QGIS, Google Earth Pro, and Orfeo). The open access software will enable a broad audience of users to apply Paul's techniques. I was very impressed both with Paul's initiative and with his technical prowess as he designed the automatic digitization protocol.

Paul continued to demonstrate a passion for GIS and a collaborative team spirit by mentoring a graduate student in my lab. The graduate student had little previous GIS experience and had a goal of implementing Paul's method in her Brazilian study landscape. Paul took the lead in mentoring this student, and demonstrated superior teaching skills and patience as he worked with the graduate student to implement his workflow for automatic digitization for her project. Overall, working with Paul has been a real boon for my research on tropical tree cover. I am confident that he will continue to excel as a team leader and GIS expert.

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