6 May 2020

Songspace/FUGA

Recruiter,

Because a job at Songspace would support my career goal to contribute to a community of creative individuals (e.g., musicians and software developers in Nashville) I intend to make a competitive application for your mid-level *Data Developer* position, as advertised on StackExchange and `fuga.recruitee.com`.

My immediate qualifications include

1. a year of professional **software engineering** experience at the National Center for Atmospheric Research;
2. background in **mathematics and data science** that drives me to produce high-quality software; and
3. domain-specific enthusiasm for music production, copyright law, and **the distribution of creative works**.

While I am well-equipped to work independently, I am new to software engineering as a collaborative process. Regarding independent work: at NCAR, I worked alone with two managers on the reduction of meteorological data from binary image files using Python and SQLAlchemy. I designed a metadata schema and ingest system for a ~60 TB collection of scanned documents to reduce each ~6 MB image to about ~2 KB of metadata. The analogous tasks at Songspace would be to "process the ingestion of metadata and multimedia assets" and to "validate, transform, and cleanse" them. Regarding collaboration: I've used `org-mode`, git issues, and kan-ban style boards for project management. However, these have almost all been *solo efforts*. I have only a few months' experience "*working with teams* to plan and prioritize a backlog", but I am *endearingly hopeful* to have more soon.

Doing mathematics, I learned how to have problem-solving conversations with myself and others; doing data science, I learned additionally how to describe and implement a solution in its domain-specific language. I am confident that I could both "create and sponsor new concepts" and "proactively investigate and solve technical issues". For example, I happy toggling between object oriented and functional programming paradigms.

Having been a hungry student and an amateur (software) DJ for as long as I can remember, I suppose I have done just about everything described in Daft Punk's *Technologic* to every MIME type of data described in the RFC 6838. At least I have the decency to know I've plagiarised[1] nothing. But, in all seriousness, aside from successfully implementing a RESTful API, I have wielded `audacity`, `mixxx`, `alsa`, `hydrogen`, `json`, `requests`, `youtube-dl`, `nginx`, `exiftool`, `easytag`, `ffmpeg`, pandas, NumPy, etc. to create, acquire, modify, deliver, and destroy digital content and its metadata. Specifically, I used `exiftool`, pandas, and NumPy in the image processing workflow at NCAR. As an example of how I might use these otherwise illicit skills for good at Songspace, I am confident that I could "monitor content delivery processes and queues and troubleshoot/resolve issues and errors".

To be explicit. A subset of the tag cloud of technical tools I am confident using professionally looks like: `apache`, `bash`, `git`, `debian`, `gcloud`, `pickle`, MongoDB, MySQL, `nginx`, `numpy`, `pandas`, `PostgreSQL`, `python3`, `scipy`, `SQLAlchemy`, and `unittest`. I would need to "book up", but I could also use: `C`, `Java`, and Amazon Web Services.

Thank you for your consideration,

Colton Grainger

[1] Gotta give credit where credit is due. Beyond that, 17 U.S. Code § 107 can be rather broadly interpreted (esp. in an academic context.