

February 28th, 2021

To AbCellera,
Vancouver, BC, Canada

My name is Artie and i'd like to apply to the Software Developer position(Job ID 21279). My primary motivation is to grow as an engineer as well as to expose myself to the operation of a biotechnology company. I am currently pursuing a CS & Mathematics diploma at the University of British Columbia and working at Khanh Dao-Duc's lab¹ on a variety of mathematical biology projects, the main one being analyses of cryo-em structures of the ribosome and an associated database application².

My long-term goal is to contribute in a significant way to the digital infrastructure associated with healthcare. In the short to medium term – i see no better way to acquaint myself with the field and its frontier than apprenticing myself to a visionary enterprise like AbCellera's. Given the confluence of disciplines and technologies involved in delivering on that vision, i see the opportunity to contribute – even in a small way – incredibly enriching. It's for this reason that the fact doesn't deter me that this position mostly deals with technology somewhat removed from biology itself. I'd love to prove my versatility to maybe get a chance to work in another part of the stack.

I think I am a good fit for this position because:

- I have considerable experience building rich, modern and lucid user interfaces in the context of data-intensive applications where multiple "micro"-services are involved at the backend.
- Having interacted with existing servers and having constructed one of my own – a Node/Django, which services a Neo4j database and requests for computations on structural protein data – i have a bit of insight into patterns that constitute a robust server.
- On the infrastructure side, deploying and managing my application's services and database as well as reconstructing an older application³ after its deprecation provided me with some operations perspective.
- Regarding bioinformatics, for the past multiple terms my primary occupation has been developing analyses on a sizable (100GB+) dataset of crystallographic structures of the ribosome, which i originally assembled. This was a significant effort in data wrangling, integration and "warehousing". Working with it has provided me with a knowledge of multiple large open-source and proprietary projects and tools and an intimate acquaintance with the worldwide Protein Data Bank's and NIH's services and computational tools available for structural as well as for sequence data.

I am also keenly aware of many skills lacking from toolbox. Nonetheless, I think perseverance, resourcefulness and "self-starter attitude" describe me well and i am willing to master whatever concepts necessary to deliver on a vision. Working with digitized biology⁴ and in complex coordination is something i utmostly aspire to; this gives me confidence that i would be able to contribute to AbCellera's mission.

Positively,

Artem Kushner
University of British Columbia

¹<https://kdaoduc.com>

²<https://ribosome.xyz>

³<https://crw-site.chemistry.gatech.edu/>

⁴<https://start-layer0.now.sh>