The Faces of Microbial Communities

Thomas Albertine, Michael Phelps

**Abstract**

Currently, microbiologists use charts and distance matrices to analyze populations of microorganisms in a sample. This method is difficult and unintuitive. We intend to leverage the Human brain’s ability to recognize subtle patterns and differences in faces to improve on this process.

We will be using the MakeHuman python API to generate human models based on microbial community data. MakeHuman is an open source project licensed under the AGPL3 that generates realistic human models based on various parameters. The generated models will then be presented to the user for analysis.

**Performance Metrics**

Pre-expo

* Can we load a data file?
* Can we generate a model based on that data?
* Can we present the generated model to the user?

Post-expo

* Have we discovered, using this tool, something that would otherwise be missed?
* Has our tool enjoyed widespread adoption by researchers in the field of microbiology?