

Michael L. Otte

Cell: (831) 704-6563
Email: MichaelOtte1@gmail.com

LinkedIn: www.linkedin.com/in/michaelotte13
GitHub: www.github.com/motte

SELECTED EXPERIENCES

Freenome, South San Francisco, CA

September 2015-Current

CTO, VP of Product, Software Engineer - freenome.com

I created several big data pipelines, alone and in a small team, that would process raw genomic data (raw read data), conduct automated or semi-automated feature selection, and input into various statistical learning methods (e.g. various perceptrons, random forest, and more). With the uniquely challenging "big" dataset, I had the opportunity to implement a number of feature selectors on the genomic datasets in various AMQP systems (which I also designed and implemented) and format them into different types of matrices.

I also developed a web-based genome browser (a visualization to analyze one or more genomic samples), which is often used for manual pattern recognition, analysis, and inter-sample comparison from vcf format files (essentially analytical/processed files of genetic variants). For about a year, I worked with engineers at Google, Microsoft Azure, and AWS to implement feature suggestions on their platform and improve their big data and genomics/bioinformatics offerings (e.g. Google cloud functions, azure IAMs, Google genomics, etc.). I did not code for them, but provided direct suggestions from our experience on their platforms, had in-person meetings with their chief compliance officer and head of Google Cloud, and eventually formalized a partnership with them. In addition to software engineering and computational bioinformatics, I was involved in the development of tolerance and empathy in the workplace (a culture of "it's ok to mess up!"). I was also significantly involved in hiring, partnership/investor talks, clinical lab regulatory talks, technical/regulatory documentation systems, and technical/business presentations. I spent much of my time collaborating and learning how to work with a highly interdisciplinary team with some of the best in their respective fields. I am happy to talk in greater detail about any of these projects and the other projects that I worked on (but not mentioned here).

- Helped grow the company from 4 to 30 people and raise over \$70 million (from seed to Series A)
- Created, lead, and developed 3+ critical projects (using Python, React, HTML/CSS/JS, D3.js)
- Worked with "data scientists," computational biologists, and applied mathematicians to implement statistical models

Acorn, New York, NY - *Exited*

May 2014-May 2015

COO, Lead Engineer, Co-Founder - acornapp.co

Coded a novel, patented location-acquisition tech for mobile. Setup a highly scalable distributed system. Coded a RWD web application that was rated over 90% by Google Page Speed and Yahoo YSlow by utilizing image compression to JS minimization. This reduced overall latency and page load speeds by over 80%. Also, created a mobile-server client API and an OAuth 2.0 Protocol API to enable more powerful and modular computations for the mobile app. Management, fundraising, work flow, and culture-building experience in startup setting.

- Helped develop two novel IPs in location acquisition tech
- Full Stack Web and Mobile Development with backend API server
- Built development team and established startup workflow

Dartmouth-Hitchcock Medical Clinic, Lebanon, NH

May 2011-August 2013

Researcher - geiselmed.dartmouth.edu/rigby/

- Studied the effects of rituximab (a.k.a. rituxan) in depletion of B cells via antibody-mediated cell shaving and complement dependent cell cytotoxicity
- Performed over 100 experiments through the entire process from experimental design to analysis and QA/QC
- Techniques included assay prep, PBMC and sera isolation from whole blood, cell carrying, and laser flow cytometry
- Resulting paper: *Induction of interleukin-6 production by rituximab in human B cells*. doi: 10.1002/art.38798

RECENT DEVELOPMENT EXPERIENCE

Python, Javascript (including React, Node.js, Angular.js, jQuery), HTML5+CSS3, PostgreSQL, MySQL, Nginx + gunicorn + uWsgi, various shell scripting, PHP (~2010), Java (~2007)

INTERESTS

I enjoy contributing to open/free source projects (e.g. Airflow), conducting biological and ethnographic research, rock climbing, surfing, singing, and volunteering. I started coding in Hypercard when I was 10, and proceeds from my early freelance work was donated to charities (I recommend UNICEF). I used to be an EMT (an "ambulance driver") and was the personal assistant to a former U.S. surgeon general.

EDUCATION

Dartmouth College, Hanover, NH

June 2013

B.A. Socio-Cultural Anthropology (Honors Student w/ Research)

ND Biology, Concentration in Immunology

ND Pre-Medicine