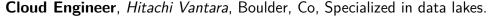# Brian Mingus

Experience

12/18–10/19 **Startup Founder**, *Latently*, Boulder, Co, Marketplace for machine learning competitions.
- Filed a patent: "A Self-Optimizing Information and Software Brokering Platform-as-a-Service."
- IBM Global Entpreneur ($100K cloud credits). Published on the IBM Cloud Blog.
- YCombinator Startup School; Foundry Group Venture Deals Course.
- Wrote a semantic tweet deduplication algorithm for a CIA-backed startup.

9/17–12/18 **Cloud Engineer**, *Hitachi Vantara*, Boulder, Co, Specialized in data lakes.
- Worked with Shell oil to design and implement an ETL pipeline for their exabytes of oil well sounding logs in the service of AI-based oil discovery.
- Consulted with Prologis to design and implement an end-to-end solution for automatic AI-based anomaly reporting for their global fleet of warehouses as based on IoT sensor readings.
- Built a set of rail car sensor analysis libraries for Rio Tinto's internal innovation consulting team in the service of their AutoHaul self-driving train program.
- AWS Certified Solutions Architect; AWS Certified Big Data Specialty.
- Manned the AWS booth at the 2018 nVidia GTC AI conference in Washington, DC.

1/17–9/17 **Startup Founder**, *Latently*, Boulder, Co.

1/16–1/17 **Software Engineer**, *ThinkTopic*, Boulder, Co, Designed and built style.com for Condé Naste.
- Developed an Expert System allowing fashionistas to create a fashion ontology by tagging and hierarchically organizing fashion runway and product photos, so as to automatically recommend products on style.com.
- Created an index fund recommendation engine using the SEC's EDGAR database.
- Consulted with the New York Times on their front page article recommendation algorithm.

5/14–1/16 **Startup Founder**, *Cognatory*, Boulder, Co, Peer grading.
- Created PeerWise, an NLP + real time peer grading tool for student essays in large classrooms ($>$ 400 students).
- Resurrected lsa.colorado.edu, the original website hosting the Latent Semantic Analysis algorithm.
- Used the millions of ratings from the Wikipedia Editorial Team to automatically predict the quality of Wikipedia articles using NLP (see Publications).
- Used Wikipedia and IDR Labs to use NLP to predict the personality of hundreds of celebrities.

4/13–5/14 **Software Engineer**, *Rosetta Stone*, Boulder, Co, Speech recognition team.
- Worked on Sonic, a Hidden Markov Model + Neural Network speech recognizer written in C and designed to run on mobile devices.
- Modified Sonic to support loading of language models up to the size of memory of the device.
- Migrated the CI/CD pipeline from a tower of mac minis to VMWare vCloud.

1/10–12/12 **Graduate Research Assistant**, *Computational Cognitive Neuroscience Lab*, Boulder, Co.

5/08–1/10 **Professional Research Assistant**.

6/05–5/08 **Research Assistant**.

1/05–2/06 **Startup Founder**, *Qwikly*, Boulder, Co, Wikipedia+pictures for offline viewing on PDAs.

10/0–10/4 **Journalist**, *United States Navy*, San Diego, Ca; Naples, Italy.
- Master Helmsman, Duty Gunnersmate and Enlisted Surface Warfare Specialist aboard USS Dubuque in service of Operation Enduring Freedom, deployed to Persian Gulf.
- Journalist on the staff of the Admiral for Commander, Fleet-Air Mediterranean in service of Operation Iraqi Freedom.

1/98–1/99 **America Online Technical Support Representative**, *StarTek*, Grand Junction, Co.
"Thanks for calling America Online Technical Support for Windows. My name is Brian. For our database purposes, may I please start with your last name?"

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🌐 *http://linkedin.com/in/brianmingus*

Education

BA/MA Psychology, Graduate Certificate in Cognitive Science, *Computational Cognitive Neuroscience Lab, University of Colorado*, Boulder, Co,
"Understanding the mind by simulating the brain" - World class robotics lab.

- o Developed a model of human cognitive bias for the Intelligence Advanced Research Project Agency's (IARPA) ICArUS project.
- o Consulted onsite with the Navy Research Lab's Octavia humanoid robot.
- o Led a team of 20 to train and integrate deep convolutional networks for object and speech recognition into the Nao humanoid robot at the Telluride Neuromorphic Cognition Engineering Workshop.
- o Designed a neural network architecture for figure-ground segmentation that relies on dual convolutional networks representing each eye and which learns to foveate on a target, separating the foreground from the background.
- o Created a deep network that learns a Latent Semantic Analysis understanding of the visual object in its scene.
- o Created a deep reinforcement learning model of human parieto-motor cortex that learns to reach to a target.
- o Researched and developed Liquid State Machines for time series prediction on the edge of chaos.
- o Performed extensive DevOps work supporting the development of the *emergent* neural network simulator, written in C++.

Coursework Symbolic Logic, Data Structures, Calc-based Physics 1&2, Cognitive Science, Neurobiology of Learning and Memory, Computational Cognitive Neuroscience, Artificial Intelligence, Natural Language Processing, Information Retrieval, Linear Algebra, Reinforcement Learning, fMRI Analysis, Grad Stats 1&2, Research Methods, Perception and Attention, Memory, Language, Executive Function, Thinking. TA'd for Cognitive Science three times.

Tools

Languages Python, Clojure, SQL, Bash pipelines

Have used Bash, C, C++, CoffeeScript, CSS, Datalog, elisp, Java, Javascript, LATEX, Matlab, Perl, PHP, PowerShell, R, SPARQL, XML

AI/ML/DS AutoML, emergent, gensim, Keras, LibRec, Tensorflow, Scikit-Learn, SparkML, spaCy, Weka

AWS AWS Certified Solutions Architect, AWS Certified Big Data Specialty

Production API Gateway, Athena, Auto Scaling, Certificate Manager, Cloud9, CloudFormation, CloudFront, Cloud-Trail, CloudWatch, CodeCommit, CodePipeline, Config, Database Migration Service, Data Pipeline, DynamoDB, EC2, ECS, EFS, ElastiCache, Elastic Beanstalk, Elasticsearch Service, EMR, Glacier, Glue, IAM, IoT, IoT Analytics, Kinesis, KMS, Lake Formation, Lambda, Neptune, QuickSight, RDS, Redshift, Route 53, S3, SageMaker, Secrets Manager, Simple Queue Service, Snowball, Step Functions, Systems Manager, Trusted Advisor, VPC, WorkSpaces, X-Ray

Web Stacks LAMPython, Meteor, Reagent+Datomic+ClojureScript

Misc Anaconda, autoconf/automake/libtool, Docker, emacs, Bokeh, CMake, Dask, DC/OS, Hadoop, HoloViews, Jenkins, Jupyter, jQuery, Make, Matplotlib, nltk, NodeJS, Numpy, Pandas, Parquet, Player+Stage+Gazebo, SciPy

OS Amazon Linux, Debian, Fedora, OpenSUSE, OSX, Ubuntu, Windows

Change CVS, Bugzilla, Git, JIRA, SVN, Trello

Software Google Analytics 360, Photoshop, PowerPoint, Visio

Databases Datomic, DynamoDB, Memcached, MySQL, Neptune, PostgreSQL, RDS, Redshift, Oracle

Publications

Lead or co-author on several scientific papers in Frontiers in Psychology, Neural Networks, and others.

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