


Alexander Clines

San Jose, CA
me@alexanderclines.com
alexanderclines.com
 [/alexander-clines](https://www.linkedin.com/in/alexander-clines)

EXPERIENCE

Google, Mountain View CA — *Software Engineer*

JULY 2017 - PRESENT

SWE on a NLP team under Google AI Language focused on all things related to applying new NLP technologies towards solutions for Google. My work can be summarized into 3 sections. Research, Infrastructure, and Frontend.

Research

Technologies and methodologies used for confidential internal research are:

- » Implementation of unsupervised methods including **clustering** for managing large quantities of text.
- » Utilization of **LSTM** networks.
- » Distillation of **BERT** models.

Infrastructure

Developed and improved many pipelines/frameworks within Google in relation to NLP data. A majority of this work involved **scalable, distributed computing** in **C++** with a wide variety of Google's internal tools.

This included contributing to datasets like *A Challenge Set and Methods for Noun-Verb Ambiguity*¹ and others expected to be open sourced by end of 2020.

Contributed to the deployment of several models (including Sentiment Analysis) that are launched in production today.

Frontend

Designed, implemented (with **Angular & TypeScript**) and currently support the entire development stack for demoing several NLP models to aid researchers within Google with:

- » Proof of concept for their latest models.
- » Tools to help researchers have a better understanding of their models.
- » Generalized demos for helping potential internal clients determine if the models would help them with their use cases.

PROGRAMMING LANGUAGES

C/C++	■■■■□
Python	■■■■□
TypeScript	■■■■□
Java	■■■□□
Bash/Shell	■■■■□
JavaScript	■■□□□
C#	■□□□□

LIBRARIES/TOOLS

Bazel	■■■■□
Protocol Buffers	■■■■□
MapReduce	■■■■□
RPCs	■■■■□
Angular	■■■■□
TensorFlow	■■□□□
CUDA	■■□□□
Polymer	■□□□□
MPI	■□□□□

DATABASES

Cloud Spanner	■■■□□
MySQL	■■□□□
MongoDB	■□□□□
Firebase	■□□□□

¹ <https://www.aclweb.org/anthology/D18-1277.pdf> - I'm in the acknowledgements

USAA, Plano TX — *Software Engineer Intern*

MAY 2016 - AUGUST 2016

Contributed to the development of native mobile apps with **Swift** for **iOS** and **Java** for **Android** in addition to cross-platform technologies including Polymer to allow users of all devices the opportunity to access a service provided by USAA.

MAY 2015 - AUGUST 2015

Worked on backend infrastructure for a mobile application, implementing a **RESTful API** using **MySQL** and **J2EE** technologies.

Texas Tech University, Lubbock TX — *Mathematics Tutor*

AUGUST 2014 - MAY 2015

Assisted students in acquiring a better understanding of basic and complex concepts in various undergraduate mathematics courses.

EDUCATION

Texas Tech University, Lubbock TX — *Computer Science B.S. & Mathematics B.S.*

DEGREES OBTAINED MAY 2017

RESEARCH/PROJECTS

Multi-Agent Simulation Engine — *Texas Tech University Mathematics Department*

JANUARY 2016 - MAY 2016

Assisted an instructor on a multi-agent simulation engine for GPU clusters.

- » Worked with libraries such as OpenMPI, Thrust & Boost.
- » Found efficient ways to handle data transfer across multiple NVIDIA GPUs per node and multiple nodes in a cluster.
- » Used advanced C++ such as template metaprogramming in addition to **CUDA**.

Opinion Classifier Research Assistant — *Texas Tech University Computer Science Department*

JANUARY 2014 - MAY 2014

Assisted a professor in their research area of natural language processing.

- » Opinion Classifier Research: Researched classification algorithms to determine which would be best suited, then presented findings.
- » Opinion Classifier Application: Wrote **Python** scripts to apply the algorithms to data sets and collect results.