

# Adelbert Chang

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## Experience

### OctoML

Seattle, WA

PRINCIPAL ENGINEER

Feb. 2020–Present

- Working on automating machine learning operations through a unified software foundation
- Head of the Platform engineering team, responsible for vision and prioritization of Platform work in coordination with Product, Infrastructure, and MLSys (compiler engineering)

### Target

Sunnyvale, CA

LEAD DATA ENGINEER, LEAD AI ENGINEER

July 2017–Feb. 2019

- Investigated backends and implemented bulk loader for our caching layer, stabilizing our daily pipeline runs
- Implemented a workflow engine for Apache YARN, allowing us to run our non-Hadoop, compute-heavy workloads in our main compute cluster
- Implemented and deployed Kubernetes and custom scheduler backend for Nelson; a multi-DC, immutable, continuous deployment system; allowing data scientists to continuously iterate and deploy without worrying about infrastructure
- Mentored data scientists in engineering skills such as deploying with Docker and Nix, and teaching Haskell, Rust, and Scala

### Box

Redwood City, CA

SOFTWARE ENGINEER, SENIOR SOFTWARE ENGINEER

April 2014–July 2017

- Lead effort to break apart monolithic Scala project and build tooling for the entire Backend team
- Designed and implemented a rule engine for anomaly detection on the Security team
- Wrote tools to measure and report service SLAs on the Services team
- Built initial Spark infrastructure and content classification system on the Machine Learning team

### Systems, Algorithms, Networks, and Data (SAND) Lab

Santa Barbara, CA

RESEARCH ASSISTANT

Feb. 2011–Oct. 2013

- Assisted in designing and implementing a graph coordinate system for both symmetric and asymmetric random walk distances, allowing rapid querying of pair-wise distances
- Implemented synthetic graph generation algorithms to model social graph structures, allowing researchers needing graph datasets to readily generate as many datasets as needed without sacrificing privacy

## Skills

**Systems** Kubernetes, Nix, Spark, Hadoop, IDLs (i.e. Avro, Protobuf, Thrift), Cassandra, Redis, Docker, Jenkins, Kafka

**Languages** Scala, Haskell, Rust, Python, Nix, Bash, C/C++

## Publications & Talks

### PUBLICATIONS

- 2017 **The Limitations of Type Classes as Subtyped Implicits.**, Adelbert Chang. Proceedings of 8th ACM SIGPLAN International Scala Symposium (SCALA'17), October 2017.

Vancouver, Canada

### TALKS

- 2019 **Curry On, Scale by the Bay**,  
2018 **Northeast Scala Symposium, Bay Area Haskell Hackathon, Scala World, Scale by the Bay**,  
2017 **Typelevel Summit USA, Scale by the Bay**,  
2016 **Typelevel Summit USA, Northeast Scala Symposium, Scale by the Bay**,  
2015 **LambdaConf**,  
2014 **Scala by the Bay**,  
2013 **Scala by the Bay**,

## Selected Projects

### Nelson — Automated deployment orchestration

[HTTPS://GETNELSON.IO/](https://getnelson.io/)

Nelson is a fully automated deployment orchestration tool intended to work with a datacenter scheduling system such as Kubernetes or Hashicorp Nomad. Lead effort to implement the Kubernetes backend and modernize the tech stack.

## Cats — Functional programming for Scala

[HTTPS://GITHUB.COM/TYPELEVEL/CATS](https://github.com/typelevel/cats)

Cats is a library which provides abstractions for functional programming in Scala. Currently a maintainer and one of the top contributors.

## Education

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### University of California, Santa Barbara

B.S. CREATIVE STUDIES (COMPUTER SCIENCE EMPHASIS)

*Santa Barbara, CA*

*Fall 2010–Winter 2014*