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. 2020*

- 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/

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

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

Education

University of California, Santa Barbara *Santa Barbara, CA*

B.S. Creative Studies (Computer Science Emphasis) *Fall 2010–Winter 2014*