

# Arthur Tonelli

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## ABOUT

I am an engineer based in the Bay Area specializing in data processing, machine learning, and computer vision. I worked as an analyst at several start ups until 2016 when I self studied programming, machine learning, and computer vision. I now use these skill sets as a data engineer. Additionally, my passion for photography pushes me to continue my work in computer vision and deep learning.

## EDUCATION

### UNIVERSITY OF CALIFORNIA, BERKELEY

ECONOMICS (BA)  
2010 - 2014

## SKILLS

### SOFTWARE

#### LANGUAGES

Primary

Scala • Python • Java • SQL

Familiar with

Objective-C • Swift • Javascript • Ruby • C++

#### SKILLS

Data Processing • Storage & Warehousing • Real Time Messaging • Functional Programming • CQRS & Event Sourcing • Multithreaded Programming

#### MACHINE LEARNING

TensorFlow • SciKitLearn • Pandas

#### DATA

Airflow • Spark • MySQL/PostgreSQL • NoSQL/mongoDB

#### OTHER TOOLS

Cloud Technologies (GCP & AWS) • Linux • Terraform • iOS/CoreML • Circle CI

### OTHER INTERESTS

Ironman 70.3 World Championship Athlete • Boston Marathon Athlete • Landscape Photographer • Film Editing • Avid Baker (specialties are cookies and pies)

## ENGINEERING EXPERIENCE

### CREDIT KARMA | DATA ENGINEER

2020 - Present | San Francisco, CA

- Design, build, and maintain ETL's using tools such as Dataflow and Airflow to process terabytes of external and internal data each day
- Provide tooling for model development and data visualization used in proprietary notebook environments
- Led project migrating enterprise partners to a new data pipeline, collaborating with ML engineers and data scientists to improve data quality
- Built automated data validation tooling to alert for failed ETL jobs

### SOFTWARE ENGINEER

2018 - 2019 | San Francisco, CA

- Created new micro-services for managing and distributing offers to 100 million members using Scala and CQRS and event sourcing
- Migrated content management system responsible for 70% of the company's revenue to a new micro-service
- Led project of 5 engineers across several teams to allow real time data processing and updates to Offers from multiple partner API's
- Became the team expert on Scala and mentored team members on functional programming and software development best practices

### LEADGENIUS | DATA ENGINEER

2017 - 2018 | Berkeley, CA

- Led projects to retrieve and store data on 2 million new organizations to add to our data set of leads
- Designed architectures of ETL pipelines for importing and processing data on new market verticals
- Implemented RESTful API's for customers and researchers to consume new data using the Django framework
- Distributed Spark jobs onto EC2 clusters to match and link company and lead data

## COMPUTER VISION

### STYLE TRANSFER | [GITHUB](#) | [COLAB](#) | [MEDIUM](#)

Implemented [research work](#) with TensorFlow 2

- Image transformation using deep learning and convolutional neural networks
- Published article to provide insights on TensorFlow

### IOS BASED MODELS | [MEDIUM](#)

Generative CNN transformations for live video feed

- Designed and tested various neural network architectures to optimize for the iPhone GPU and real time video.
- Deployed the neural network on an iOS device using AVFoundation, CoreML, and Metal

### COURSEWORK | [GITHUB](#)

Includes [Stanford CS231n](#), [Bradfield CS](#), [Google](#)

- Attended courses and self studied research papers on novel network architectures
- Image classification and segmentation projects using TensorFlow and Keras
- Implemented core computer vision topics such as efficient image mapping, alignment, and filtering algorithms