

Erik Reppel

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Education

University of Victoria

Bachelor of Computer Science, April 2018

Notable Courses: CSC 474: Data Mining, CSC 485 (topics) Natural Language Processing

Coursera (University of Washington)

Machine Learning Specialization, in progress

Fast AI

Practical Deep Learning for Coders

Paper reading

Attempting to keep up with papers on deep learning as they come out

Experience

Coinbase

January 2017 – May 2017

Coinbase is the largest bitcoin exchange in North America, and at any given moment stores 10% of the worlds Bitcoin

Software Engineering Intern

Tech stack: Python, Docker, JavaScript, Go

- Implemented convolutional Laplacian variance with tracking.js for better photocapture in frontend of webapp
- Built ML model using gradient boosting and OpenCV to determine if an ID is readable.
- Built service in golang that uses Fernet + Shamir secret sharing that securely store sensitive data
- Attempted to use CNNs with custom kernel to detect images that have been photoshopped
- Built reverse image search to prevent ID reuse by fraud rings

General Fusion

March 2016 – August 2016

General Fusion is the world's largest private venture into fusion research with the goal to build a fusion reactor

Software Engineering Intern

Tech stack: Go, Python, Pachyderm, Kubernetes, gRPC, AWS

- Made significant contributions to architecture and implementation of big data infrastructure to process, version, store, and make available hundreds of terabytes of experimental physics data
- Wrote microservices in go for parsing, extraction of metadata, versioning, and storage of data
- Built API for users to discover and access experimental physics data at large volumes
- Helped design processing DAG of physics data in map/reduce paradigm
- Wrote python API client to allow for simple access and visualization of physics data

Intuitive Surgical

January 2015 – August 2015

Intuitive Surgical produces the da Vinci, a surgical robot

Software/Data Engineering Intern

Tech stack: Python, Scala, JavaScript, Hadoop, Spark, Kafka, AngularJS, NodeJS, ElasticSearch, MongoDB

- Build new prototype of existing service using Hadoop and Spark for real time data analytics
- Created real time updating graph of components in a daVinci with D3, NodeJS, and websockets
- Built concurrent Kafka consumer in Scala with Akka, improved performance 500x from Python predecessor

Projects

Block Blog (Hack the North 2016 winner)

A blockchain based micro blogging social network. Implemented custom blockchain application using Tendermint to store users and posts. Golang, TMSP, Python, GCP, React, ES6.

Reinforcement Learning Rubix Cube Solver

Uses DQN to learn how to solve a rubix cube (based on Karpathy's Pong From Pixels) using Python and numpy.

Launchaco

Name and build products and websites (#2 on Producthunt, #14 all time Show HN)

Role: Built backed API, parsed zone files and created Datastore table, contributed to frontend

Tech stack: JavaScript, Golang, GCP Datastore, Kubernetes, Docker

Lumo

Smart light switch with internet connectivity for remote usage, monitors user power consumption patterns and aids them in minimizing power usage.

Role: Built microservice based backend for handling events from MQTT, storing events, making predictions, and allowing control of Lumo via app with minimal latency.

Tech stack: Golang, gRPC, Docker, Kubernetes, MQTT

Extracurricular

UVIC SDAML Club

Executive Technical

Lead

(Software Development and Applied Machine Learning)

- Organize workshops on topics related to machine learning and software development
- Keep road map of the club's technical knowledge goals and curriculum
- Workshops lead: Intro to Regression, Classification: Logistic Regression, Comparing K-Nearest Neighbor and Logistic Regression as classifiers

UVIC WebDev Club

Technical

Presenter/Co-President

github.com/uvicwebdev

- Lead workshops and contribute to club organization and planning
- Workshops lead: Intro to JavaScript, How to Websockets: build a chat app with searchable message history, Web App from step 0: building a Twitter clone

Hack Victoria

Lead Organizer

hackvictoria.com

- 24-hour hackathon focused on building tech to improve the community
- 20 teams, 60 participants, over \$2000 of prizes and free food

Fields of interest

Reinforcement learning, Recurrent neural networks, Deep learning, Distributed systems, Blockchain technology, Big data

Skills

Languages

- **Proficient:** Python, Go, JavaScript
- **Working Knowledge:** Scala, Java, C

Technologies / Frameworks / Methodologies

Pachyderm, Hadoop, Spark, Kafka, Kubernetes, gRPC, NodeJS, Flask, SocketIO, React, AWS, ElasticSearch, Git, MongoDB, Numpy, Pandas, Sci-Kit Learn, TensorFlow, Pytorch, NodeJS, Flask, SocketIO, React, Agile, TDD/BDD, Event Storming/Event Sourcing

References available upon request