Enrico Zandomeni Borba

Information

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Coursework

Computer Science
Type Systems
Complexity Theory
Operating Systems
Machine Learning
Algorithms
Decidability & Tractability
Functional Programming
Graphics

Mathematics
Information Theory
Model Theory
Abstract Algebra
Bayesian Inference
Game Theory
Discrete Math
Real Analysis

Interdisciplinary
Biomolecular Computation
Biological Data Analysis

Software

Libraries
Pandas, Numpy, Flask
TensorFlow, PyTorch
React, Express, Redux
Abseil, Boost
Alamofire
Menhir

Services
Heroku, AWS
Docker
Redis
Kubernetes

Programs
Xcode
Hopper

Languages

Fluent
English
Portuguêse

Proficient
Spanish

Basic
Japanese

Education

California Institute of Technology (2019)
B.S. Computer Science

Work Experience

Google Software Engineer (Sept 2019 - Present)
Working on the Interactive Questions team. Improved the freshness of answers, created an automatic pipeline to initialize and monitor data, and built a cache system to dramatically speed up pipeline reruns.

Van Valen Lab Research Student (Sept 2018 - June 2019)
Used Machine Learning (CNNs & NNs) to perform segmentation and cell tracking on movies of biological cells. Greatly improved the cell tracking model accuracy on detecting divisions and created a (now patented) data curating tool to ease the manual correction of incorrect outputs.

Mitsubishi Engineering Intern in Japan (Summer 2018)
Worked on the systems division to create the infrastructure for sensor data collection and processing inside next generation vehicles. Constructed a model to detect drowsiness and impairment in drivers using biometric sensors and driving data.

Facebook Software Engineering Intern (Summer 2017)
Worked with the Search as a Service (SaaS) team. Wrote a scaled down version of the existing SaaS platform for teams looking to test out the service. This involved scripting (Bash/Python), data mining (MySQL, Hadoop, Hive), and building a web frontend (HHVM).

Google Software Engineering Intern (Summer 2016)
Wrote an RPC (remote procedure call) tracing tool for the Vanadium project in Golang. Set up a protocol, "HTTP over RPC", which would serve HTML pages which contained data on the RPCs. Worked with Google Street View to enable car operators to mark road conditions (dirt, private, or public) with a joystick.

Projects & Languages

Tyme — Swift, Python, JavaScript
A hierarchical time tracker that lets you analyze how you spend your time. Accessible as an iOS app, on a terminal, and as a web-app.

Myth — OCaml
My (unfinished) attempt at the best programming language: writes like Python; runs like C; liberal like JavaScript; safe like OCaml.

Python-CRN — Python, Sympy
A Chemical Reaction Network simulator presented as a Domain Specific Language. Supports stochastic and deterministic networks.

Crick — Python, OpenCV, Requests
HQTrivia Human assistant: Using OCR from a continuous screen capture, provides short, expressive, and context-aware Google queries.

XaTeLite — Python, LaTeX, Bash
Pronounced "satellite". A LaTeX-over-HTTP workflow: Edit your .tex file over ssh and visit a website for the pdf.

Expert
Python 3.7+

Advanced
OCaml
C++
JavaScript
Processing

Proficient
Lean
Swift
Haskell
C
Bash
Java

Basic
Elixir
Golang
Rust
Hack (HHVM)
R