Enrico Borba

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Resources
ezb.io
github.com/enricozb

Coursework

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

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

Interdisciplinary
Biomolecular Computation
Biological Data Analysis

Software

Operating System
Linux (Ubuntu / Arch)
Mac OSX
Windows

Development & Workflow
neovim + mosh + tmux
git, mercurial, perforce
Sublime Text, Atom
Xcode
i3

Design
Photoshop CS6
Sketch 3
Krita

Office Tools
Apple Pages & Keynote
MS Office Suite

Languages

Fluent
English
Português

Proficient
Español

Basic
日本語 (Japanese)

Education

California Institute of Technology (2015 - 2019)
B.S. Computer Science

Work Experience

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

Mitsubishi Engineering Intern in Japan (Summer 2018)
Worked on the systems division to create the infrastructure for sensor data collection & processing inside next generation vehicles. Using biometric sensors, and vehicle data (ex. steering wheel angle) I constructed a model to detect drowsiness or impairment in drivers.

Facebook Software Engineering Intern (Summer 2017)
Worked with the Search as a Service (SaaS) team. I 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. I also worked with Google Street View to enable car operators to mark road conditions (dirt, private, or public) with a joystick.

Uncanny Vision Intern (2015 - 2016)
Worked on a variety of computer vision projects ranging from Simultaneous Localization and Mapping (SLAM) implementation to multi-sensor integration. Main project consisted of porting and optimizing a post-data collection Multi State Constrained Kalman Filter implementation in MATLAB to C++ for real-time data analysis on restricted hardware.

Projects & Programming Languages

Myth
My attempt at the best programming language: writes like Python; runs like C; liberal like Javascript; safe like OCaml. Ask me about this.

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

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

XaTeLite ("satellite")
LaTeX over HTTP workflow. Edit the source file over SSH and visit a website for the pdf.

Mollusk
Unifies the best parts of two shells xonsh & fish: fish's autocompletion + xonsh's environment.

Expert
Python 3.7+ ●●●●◐

Advanced
OCaml ●●●●○
Processing ●●●●○
C++ ●●●◐○

Proficient
Haskell ●●●○○
C ●●●○○
HTML + JavaScript ●●●○○

Basic
Swift ●●◐○○
R ●●◐○○
Elixir ●●◐○○
Golang ●●○○○
Hack (HHVM) ●●○○○
Rust ●◐○○○
MATLAB ●○○○○