Contact

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Resources

ezb.io
github.com/enricozb

Enrico Borba

Coursework

Computer Science

- Operating Systems
- Machine Learning
- Data Mining
- Algorithms
- Decidability & Tractability
- Functional Programming
- Language Theory
- Graphics

Mathematics

- Information Theory
- Game Theory
- Discrete Math
- Bayesian Statistics
- Abstract Algebra
- 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 - Present)

B.S. Computer Science (expected graduation 2019)

Work Experience

Van Valen Lab Research Student (Sept 2018 - Present)

Using Machine Learning (CNNs & NNs) to perform segmentation & cell tracking on raw biological cell data. Currently experimenting in improving the cell tracking model accuracy on detecting divisions in HeLa cells.

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 a lot of scripting (bash/Python), a lot of data fetching (MySQL, Hadoop, Hive), and 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 MSCKF (Multi State Constrained Kalman Filter) implementation in MATLAB to C++ for realtime data analysis on less capable hardware.

Projects & Programming Languages

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 compilation system served over HTTP. A user can edit the source over SSH and visit a website for the produced pdf.

Mollusk

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

Netflix MovieLens Factorization

Used several Machine Learning methods to create a movie recommendation system.

Expert

- Python 3.7+ ●●●●◐

Advanced

- Processing ●●●●○
- C++ ●●●◐○

Proficient

- OCaml ●●●○○
- Haskell ●●●○○
- C ●●●○○
- HTML + JavaScript ●●●○○

Basic

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