Ari Oppenheimer

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Employment:

Research Assistant, UC Berkeley, August 2015 - May 2017

- **Researched and implemented language processing algorithms to identify stylistic literary changes**
- **Wrote a Python library for literary analysis**

Head Coach, Touchstone Climbing, December 2015 - July 2016

- **Implemented predictive modeling system to provide early warning system for overuse injuries**
- **Facilitated exponential gains in athletes**

Intern / Stage, Chez Panisse, August 2015 - December 2015

- **Butchered and assisted in all aspects of menu and meal preparation**

Production Engineer, Emerging Objects, July 2013 - January 2014

- **Printed a 12'x12'x9' freestanding cement structure using 3D Systems ProJet CJP 360**
- **Improved rate of successful prints by >50%, allowing substantial time and monetary savings**

Education:

UC Berkeley (graduated Spring 2017) ; Bachelor of Art in English Literature, with significant extra-departmer coursework in Computer Science and Mathematics, listed below:

- **Efficient Algorithms and Intractable Problems: (learned underlying algorithmic theory and implementation of FFTs, developed algorithm to solve special case of 3SUM using FPM.)**
- **Time Series Analysis and Sea Level Rise (gained practical DSP experience in the domain of flooding risk-analysis. Used FFTs and filtering to analyze water levels.)**
- **Also: Linear Algebra and Differential Equations, Discrete Mathematics and Probability, Calculus, Algorithms and Data Structures.**

Projects:

Coastal Flooding Risk-Analysis:

Comparatively assessed threat of coastal flooding at two San-Diego sites. Analyzed two datasets consisting of millions of discrete data-points. Used FFT to reverse engineer harmonic constituents ove 50-year period, then filtered (using high-pass and low-pass) to remove noise and gain objective insigh regarding long term tidal variability.

Pick Items:

Wrote approximation algorithm for NP-Hard optimization problem "Pick Items" (similar to m-dimensional knapsack with incompatibility constraints, and complex decision-making). Solution scored in 80th percentile among classmates. Implemented strongly decoupled design allowing for continued iteration leading to significant speedups.

Text Edit:

Designed and wrote a derivative of TextEdit in Java. Supported functionality: saving, keyboard shortcuts, scrolling, copy/paste, keyboard navigation, mouse navigation.

Languages, Libraries, etc:

Python, Java, LISP [Scheme flavored], C++ (learning), Go (also learning), Numpy, SciPy Pandas, NLTK, Git, SQL Unix [Bash], Flask, HTML/CSS