

Robert Huang

Curriculum Vitae

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Education

2011

2015

B.S., University of California, Berkeley.

Electrical Engineering and Computer Sciences

Bioengineering: computational biology concentration

GPA: 3.70

Experience

2014

Research Intern, Ecole Polytechnique (Laboratoire d'informatique: AMIB).

Computational biology: estimating length of repeat regions

- verified the theoretical bounds on the length of repeat regions using combinatorics
- devised an efficient algorithm to calculate the profile of a suffix trie using a suffix array
- tested algorithm on random strings and *Archaea* sequences to conclude that non-random genomes result in a profile drift due to repeat regions

2013-2014

Research Assistant, UC Berkeley (Nielsen Lab) & UCSF (Andino Lab).

Evolutionary genomics: viral evolutionary rates

- prepared **draft manuscript for publication**
- examined nucleotide sequences for varying evolutionary rates among 130+ viruses and genes using rate4site
- compiled and aligned sequences, built phylogenetic trees, and calculated evolutionary rates
- compared evolutionary rates against protein 3D structure using PyMOL
- found no significance difference in variance of evolutionary rates across viral groups
- concluded that structural and non-structural genes evolve at similar rates, contrary to initial hypothesis

2012

Undergraduate Student Instructor & Reader, UC Berkeley.

Computer Science 61A: Structure and Interpretation of Computer Programs

- **built an scheduler** to optimally assign 1200 students' sections based on preferences
- managed the Code Review system which provides students with feedback on their project composition
- will be **co-instructor/lecturer** in summer 2015

Skills

programming **Python**, Java, C, \LaTeX , Unix/Linux
lab PCR, gel electrophoresis, micropipetting

Languages

English **native**

Chinese **fluent**

French **proficient**

*spoken at home
studied for 6 years*

Interests

Piano Started playing when I was 4, performed in a master class
Languages Love learning new languages, including German and Swedish