Santi Santichaivekin

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Education

Harvey Mudd College, Claremont, CA — Expected May 2022
B.S. in Computer Science, GPA 3.81

Coursework: Computer Systems; Advanced Algorithms; Complexity Theory; Digital Electronics; Science of Debugging; Software Development; Data Structures; Machine Learning and Search; Differential Equations; Linear Algebra

Skills

Proficient: Python, Java | Prior Experience: JavaScript, React, NodeJS, Go, C++, C, Bash, SystemVerilog, SQL, Kubernetes

Work Experience

Software Engineer, *Line Man Wongnai*, Bangkok, Thailand — Spring 2020 - Summer 2021

- Worked as a backend software engineer on the company's restaurant management system. Worked on claims & refunds, revenue calculations, admin website, reports, and referral system. Used Java, NodeJS, SQL, Kubernetes, and React.
- Wrote remote debugging and port-forwarding scripts. Improved documentation for three backend services.

Research Assistant (Remote), *Harvey Mudd College*, Claremont, CA — Summer 2020

- Managed a team of six under professor supervision to develop and release Empress—a Python application that helps biologists understand how species coevolve. (`github.com/ssantichaivekin/empress`)
- Made key architecture and style decisions, managed GitHub issues and pull requests, led rigorous code review processes.
- Created a pipeline for testing, freezing, packaging, and signing the application using Pyinstaller and Github Actions.
- Held Zoom information sessions on Git, GitHub, text editors, integrated development environments, best software engineering practices, and debugging tools.

CS Tutor/Grader, *Harvey Mudd College*, Claremont, CA — Spring 2018 - Fall 2020

- Tutored and graded Advanced Topics in Algorithms, Algorithms, two semesters of Computability and Logic, and two semesters of Python Scripting.

Software Engineer Intern, *Uber ATG*, San Francisco, CA — Summer 2019

- Reduced the number of geopositional waypoints sent over the network for self-driving cars navigation by over 50% by implementing an algorithm based on Ramer–Douglas–Peucker line simplification algorithm.
- Developed metrics for monitoring the consistency of self-driving car constraints such as "do not take unprotected left turns" and "do not enter school area" among different routing services and display them in Grafana. Used Go and Java.

Software Engineer Intern, *Microsoft*, Bellevue, WA — Summer 2018

- Implemented an event queue that improved the responsiveness of complex visual transitions in Microsoft Whiteboard application by performing layout calculations in the background. Used C#.

Selected Publications

Santichaivekin, S., Yang, Q., Liu, J., Mawhorher, R., Jiang, J., Wesley, T., Wu, Y., & Libeskind-Hadas, R. *eMPRess: A Systematic Cophylogeny Reconciliation Tool*. Bioinformatics, btaa978 (2020).

Santichaivekin, S., Mawhorter, R., & Libeskind-Hadas, R. *An efficient exact algorithm for computing all pairwise distances between reconciliations in the duplication-transfer-loss model*. BMC Bioinformatics 20, 636 (2019).

Personal Projects

Halite3 AI Competition Bot (`github.com/ssantichaivekin/halite3`) — Fall 2018

- Planned ship movements to collect resources around the game map while avoiding collisions using evaluation functions and evolutionary algorithm. Used Python and C++. Fine-tuned hyperparameters on remote server.

Additionals

Open Source Contributions: Pyinstaller (1 bugfix), Nltk (2 bugfixes)
Residential Life Mentor, Harvey Mudd College, Claremont, CA — Fall 2021 - Spring 2022
5th place in ICPC Southern California Regional Contest — Fall 2018
1st place in Harvey Mudd College Microsoft Coding Competition — Fall 2017