Benjamin Choi

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Experience

NewBee [https://bit.ly/newbee-app] **Cambridge, MA**
Creator, Maintainer, Software Engineer Oct 2021–present

- Created an open-source web app from the ground-up capable of hosting an organization's technical documentation by implementing features such as: a passwordless WebAuthn-based authentication system, a roles-based authorization system, a Markdoc-based documentation system, a first-of-its-kind Markdoc editor with a rich linter, a Stack Overflow-like QnA system, an automatic documentation expiration system, an error-tolerant text-based search engine, a containerized development environment, and a thorough set of high-coverage unit tests.
- Using modern, industry-leading tools like: (language) TypeScript; (database) PostgreSQL, Solr; (backend) Nest; (frontend) Angular; (styling) Tailwind; (testing) Jest, Storybook; (DevOps) Docker, Nx.

Volant Trading **New York, NY**
Software Engineer Jan 2020–Sep 2021

- Created the internal infrastructure that manages the execution and aggregation of proprietary trading strategies across a dozen portfolios, reducing operational risk and improving execution efficiency.
- Improved the internal futures pricing infrastructure by refactoring the pricing app to add software support to a previously unsupported class of products and exchange protocol, decreasing execution latency and increasing pricing accuracy.
- Touched all aspects of the codebase including backend C++ apps, frontend C# apps, and operational Python and Bash scripts.

Software Engineering Intern Jun 2018–Aug 2018

- Automated the options expiration process by developing a back-end infrastructure capable of handling the entire firm's volume of traded contracts on a weekly basis, speeding up the expiration process by a factor of 10.
- Reduced the number of errors merged into production by creating over a dozen CI/CD scripts, leading to a 50% decline in configuration errors.

Education

Washington University in St. Louis **St. Louis, MO**
MS in Computer Science 2019
BS in Computer Science; second major in Economics; minor in Mathematics 2015–2019
GPA: 3.84

Honors & Awards: Magna Cum Laude, Tau Beta Pi Missouri Gamma chapter

Selected coursework: Machine Learning, Multi-Agent Systems, Parallel & Concurrent Programming, Mobile Application Development, Human-in-the-Loop Computation, Systems Security, Advanced Algorithms, Cloud Computing

Projects

WUSTL Course Manager [https://bit.ly/wustl-cm] Spring 2019–Winter 2019

- Created the backend and frontend for a cross-platform, web-enabled course support app for use in grading student submissions and checking out student labs in real-time.
- Implemented in React Native (app front-end), React (web front-end), and Django (back-end).

FIFA Player Rating Predictor [https://bit.ly/fifa19-rp] Spring 2019

- Created a Gaussian Process regressor using a dot product kernel capable of predicting the overall rating of FIFA players within 1.2 points (out of 100).
- Implemented in Python using Scikit-learn.
- Results codified in the following report: [https://bit.ly/fifa19-writeup]

Skills

Expert: TypeScript, Python, C++, Git, VS Code, JetBrains IDEs, Nest.js, Angular, Jest
Proficient: Java, JavaScript, Bash, SQL, Tailwind, Sass, Django, React, React Native, Nx, Prettier, Eslint, Vim
Novice: Swift, Ruby, Scikit-learn, Jenkins, Docker, Kubernetes, Terraform, AWS, Google Cloud