

# Jeffrey Tsang

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## Experience

### Memorial Sloan Kettering Cancer Center

New York, NY

*Full Stack Software Engineer 3, Clinical Bioinformatics Group*

*May 2022 - Present*

- o Architected and implemented **Python FastAPI** back-end web services as part of an enterprise initiative to integrate with Epic electronic health records system, enabling seamless HL7 health data transmission and automated cancer diagnostic PDF report generation for 30+ cancer tests, supporting treatment for 100K+ patients
- o Led design and front-end/back-end (**React/Python/Flask**) development of a roles-based access control system for blood cancer sample review web app, managing access for 100+ users and enabling new cancer test analysis for clinical teams by shipping three weeks early
- o Developed feedback modal for core cancer sample review web app in **React**, supporting 500+ users to triage, send issues to appropriate teams and record feedback in JIRA, reducing execution time by 25% and minimizing frequent emails
- o Redesigned and refactored blood cancer sample review web app with new React packages, reducing First Contentful Paint metric by 40% and enabling rich text editing to streamline cancer test analysis
- o Continually mentor and onboard junior software engineers, fostering their professional growth

*Full Stack Software Engineer 2, Clinical Bioinformatics Group*

*November 2021 - April 2022*

- o Designed and developed core front-end UI components and back-end web services using **React, Python Flask** and **MongoDB** for blood cancer sample review web app, reducing clinical report turnaround time by 20% and increasing sample analysis by 60% to 300+ samples per week
- o Led design and development of an integrated reports feature using **React and Python**, enabling physicians to analyze clinical PDF reports from multiple cancer tests, providing a holistic patient overview for 100k+ patients
- o Designed and created new advanced search page for 500+ physicians, biologists and engineers in **React** for core cancer sample review web app, allowing users to search for cancer test results with 2x faster speeds using **Elasticsearch**

### Vanguard

Malvern, PA

*Software Development Engineer 1*

*August 2020- October 2021*

- o Led **Angular** front-end development of multi-factor OOB authentication for international phone numbers on institutional logon website, enabling digital access for 25 enterprise clients representing billions of dollars in assets
- o Migrated 20,000 enterprise user accounts to a unified institutional logon website by enhancing and deploying microservices back-end on **AWS ECS** using **Java Spring** Framework
- o Enhanced user experience for 25,000 enterprise users representing over \$1 trillion in assets under management by implementing a responsive mobile/tablet experience
- o Led initiative to improve debugging and maintenance of web applications/services by integrating Honeycomb, a distributed tracing debugging tool

## Education

### Cornell University, Graduate School

Ithaca, NY

*Master of Professional Studies in Information Science 4.00/4.00 GPA*

*December 2019*

### Cornell University

Ithaca, NY

*Bachelor of Science in Information Science 3.79/4.00 GPA **Honors:** magna cum laude*

*May 2019*

## Skills

**Languages:** Python, Javascript, R, SQL, Java, HTML, CSS

**Libraries, Frameworks:** React, Flask, FastAPI, Angular

**Technologies, Tools:** Git, Docker, MongoDB, PostgreSQL, SQLAlchemy, AWS

## Projects

### Health Services Recommendation App

- o Designed and developed Django web application that recommends health services using NLP/IR techniques for a queried symptom based on geographic location using Yelp reviews