

# Jonah Tjandra

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## Education

University of Illinois at Urbana Champaign (UIUC)

Aug 2020 – Dec 2023

Bachelor of Science: Computer Science

GPA: 3.92

- Notable Courses: \*Algorithmic Market Microstructure (556), \*High Frequency Trading (421), Algorithms II (473), Machine Learning (446), Programming Languages and Compilers (421), Cloud Networking (435), \*Real-Time Systems (424), \*Database Systems (411), Linear Algebra (415), Probability and Statistics for Computer Science (361)
- \* Upcoming Courses

## Experience

1. Susquehanna International Group (SIG) - Algo Services Desk Jun 2023 – Aug 2023  
Developed web application to monitor, aggregate, and study performance of proprietary algos.
  - Interfaced with the in-house distributed messaging software and distributed database to collect data.
  - Collaborated with stakeholders to discuss and design features and track key metrics.
  - Utilized a modern technology stack to deliver high-performance features such as filtering, sorting, searching, querying, charting, computing, aggregating across terabytes of data.\* Still an ongoing internship
2. Susquehanna International Group (SIG) - Market Data Frameworks Team Jun 2022 – Aug 2022  
Architected high-performing Python framework for reliable parsing of market data byte streams.
  - Packaged a Python module utilizing C++ parsers with Cython, resulting in a 4x speedup from previous versions.
  - Implemented changes in a “non-breaking” manner to ensure compatibility with existing programs and systems.
  - Built automated scripts that generates 50,000+ lines of boilerplate code for over 100+ different exchanges.
  - Integrated regression tests, performance tests, and comprehensive documentation.Engineered an algorithmic crypto trading strategy as part of an internal intern trading competition.
  - Programmed asynchronous trading strategies that listened to live market data, built technical indicators, generated signals, and executed trades concurrently on a simulated exchange.
  - Employed various trading signals, including exchange arbitrage, ema, sma, and book imbalance strategy.
  - Designed a multi-threaded python program that interfaced with a simulated exchange, enabling back testing and organization of different algorithmic strategies.
3. UIUC - Lead Developer @ CS199 Honors Aug 2021 – Dec 2022  
Dashboard System
  - Created a comprehensive dashboard application to efficiently manage course content.
  - Successfully completed the project and seamlessly integrated it with two courses involving over 50+ course staff and 400+ students.
  - Implemented web-based APIs to create a gradebook system for 400+ students to conveniently track their grades.

## Projects

1. Equities and Market Structure Analyzer
  - Utilized best practice object-oriented python programming to perform pattern analysis on equities market data.
  - Consolidated program into a python module that encompasses multiple features such as data analysis, charting, aggregation, caching, and consolidation of market data over multiple symbols across different time horizons.
  - Produced derived dataset with log-normal features such as sma, vwap, ema, macd, aroon.
  - Employed machine learning techniques including multi-layer perceptron, support vector machines, and gradient-boosted trees, for pattern recognition and analysis.
2. Sherpa Travel Productivity Software
  - Enabled collaborative live mapping by using web APIs to synchronize map instance across various clients.
  - Consolidated restaurants, hotels, and facilities data from various data API provider to deliver features such as searching, tagging, filtering, and note taking.

## Skills

1. Languages: Python, C++, C, JavaScript, Java, Bash, and SQL.
2. Frameworks and Libraries: Numpy, Pandas, Torch, Sklearn, Matplotlib, Flask, React, and Angular.
3. Tooling: Git, CMake, Docker, TeamCity, and Jira.