

JONATHAN FAN

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EDUCATION	YALE UNIVERSITY Department of Mathematics Bachelor of Science, May 2027 <ul style="list-style-type: none">• Emphasis in Economics, Mathematics, Statistics, and Data Science• Coursework: Linear Algebra, Probability Theory• Clubs: Yale Alternative Investments, Yale Student Quantitative Research Group, Yale Christian Union• GPA: N/A	New Haven, CT
	UNIVERSITY OF IOWA College of Liberal Arts and Sciences Non-degree High School Student, May 2023 <ul style="list-style-type: none">• Coursework: Calculus III, Discrete Structures, Introduction to Linear Algebra, Introduction to Numerical Methods: Analysis and Computation• GPA: 4.00/4.00	Iowa City, IA
PROJECT 2023-Present	AlgoFacto Hedge Fund Project Creator <ul style="list-style-type: none">• Created a python package that allows users to efficiently craft alpha factor gradient-boosted ML models, whether that means designing factors, predicting future returns, tuning hyperparameters, or optimizing portfolio weights• Designed and Replicated 500+ factors (i.e., macro, value, momentum, etc.) via multi-factor dynamic regression models, PCA eigen-loadings, Cross-sectional K-means clustering, etc.• Devised 6 profitable trading strategies (robust out-of-sample testing and stress tests), with a focus in ML-Based, Factor-Based, Smart-Beta, Statistical Arbitrage, and Trend-Following Strategies• Coded fully-automated live-trading executional system using IBKR API and striving to run a strategic asset allocation portfolio of 10-15 profitable strategies live in the upcoming 6 months (\$10K Capital)	New Haven, CT
EXPERIENCE 2023-Present	YALE SCHOOL OF MANAGEMENT Research Assistant <ul style="list-style-type: none">• Programming LLMs and RAG to process thousands of self-trained word embeddings (i.e., NYT, WSJ, etc.) to generate novel Uncertainty Indices correlated with current Uncertainty Measures (i.e., EPU). Researching under Professor Yinan Su's and Professor Leland Bybee's guidance.• Published a paper with Professor Leland Bybee as a contributor. Created a repo to replicate Bubbles for Fama's Factor Characteristics and industry portfolios from Kenneth French's Data Library.	New Haven, CT
2020-2022	UNIVERSITY OF IOWA COLLEGE OF NURSING Lead Algorithm Researcher <ul style="list-style-type: none">• Published paper on using deep learning to effectively identify and extract symptom information from electronic health records (EHR) to allow physicians to automatically analyze any given EHR• Led a team of 5 with Dr. Gilbertson-White to develop a system and run computer simulations using PyTorch, Tensorflow, Keras, and Python	Iowa City, IA
2022-2022	YALE UNIVERSITY Research Assistant <ul style="list-style-type: none">• Published paper under Professor Dragomir Radev's mentorship and his LILY Lab team to create FOLIO (First Order Logic) Dataset• Assisted in data creation process by writing 20 First-Order-Logic & English stories for dataset, analyzed 180 natural language data structures, and devised conclusions from 75 premises in human performance task	New Haven, CT
2021-2022	UNIVERSITY OF IOWA COLLEGE OF ENGINEERING Secondary Student Training Program <ul style="list-style-type: none">• Crawled twitter data relating to recent tweets regarding the Supreme Court's Decision on overturning Roe vs. Wade using a Search API to analyze human reaction to the decision• Developed a deep learning model to predict geo locations of where certain tweets came from and ran a sentiment analysis on the texts using the RoBERTa-model	Iowa City, IA
2020-2020	NATIONAL ADVANCED DRIVING SIMULATION Data Analyst Intern <ul style="list-style-type: none">• Coded a Batch-Processing method using Python to preprocess and clean unstructured eye-tracking pixel data to determine areas drivers frequently viewed (e.g., phone, road, surrounding areas, etc.)• Visualized data through graphs that contained quadrants to separate x-y pixel points and processed survey data and used SmartReader (AI Survey Machine) to analyze responses	Iowa City, IA
SKILLS	<ul style="list-style-type: none">• Fluent in Python, Ray, Pandas, Numpy, Tensorflow, Keras, PyTorch, Optuna, Scikit-Learn, HTML, CSS, LightGBM, XGBoost, CatBoost, SQL, Asyncio• Adequate knowledge in machine learning, data visualization, and statistical analysis	