

# Nathaniel Joseph Houk

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## Qualifications Profile

Highly analytical and solutions-oriented technologist offering a wealth of transferable skills and current education in computer & electrical engineering; well-prepared to excel in pertinent roles in the fields of **computer/electrical engineering** and **derivatives trading**.

- Well-developed ability and understanding of electronics work, and passion for debugging, coding and solving technical problems in a timely manner.
- Understanding of schematics, layouts and digital and analogue electronic components as well as programming skills in C, C++, C#, Java, and Python.
- Critical thinker who works well under pressure and time constraints. Sharp and adaptive, with ability to quickly learn and apply new concepts, techniques, and technologies.

### Core Technologies

- C, C++, C#, Java, Python, Git, PCB Design (EAGLE/KiCad), Microcontroller programming (Teensy/Arduino), Eurorack modular synth format, audio synthesis, soldering, schematics
- Expert in derivatives trading (options/futures/stocks) & automated HFT trading systems

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## Education and Credentials

**Masters in Computer Science** (Expected 2021)  
Georgia Institute of Technology (Atlanta, GA OMSCS)

**B.S. Computer Engineering & Computer Science** (2008)  
University of Southern California (Los Angeles, CA)

- **4.0 Major GPA**, Graduated Summa Cum Laude

### Awards & Scholarships

- Microsoft Technical Scholarship Recipient, 2006, 2007
- Viterbi CECS Engineering Student of the Year, 2008
- 1st Place, USC Programming Contest, Fall 2005
- Viterbi Merit Research Scholarship Recipient, 2006, 2007
- USC Associates Scholarship Recipient, 2005, 2006, 2007
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- Trojan Scholarship Recipient, 2004, 2005, 2006, 2007

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## Experience Highlights

Seattle Synths (Seattle, WA)

### **Electrical Design Engineer**, 2017 - present

Responsible for designing novel synthesizer circuits in Eurorack modular synthesis format.

- Currently leading design of original analogue and digital circuits and accountable for recording accurate original schematics and PCB layouts using KiCad EDA software.
- Experience choosing components for correct operation of circuits at minimum cost.
- Responsible for developing projects from concept and prototype through production.

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IMC Financial Markets (Amsterdam, NL)

***Senior Energy Derivatives Trader, 2011 - 2015 (with 2 year non-compete until 2017)***

Collaborated with developers to investigate system issues and verify nightly software rollouts and system upgrades while managing all technical operations of proprietary high-frequency, low latency, automated trading system. Performed diversified duties, including risk management, compliance, position reconciliation, system troubleshooting, and enhancement of automated trading and monitoring systems utilizing Java, C++, SQL and custom FPGA's.

- Responsible for managing strategy generating \$5-8M profit/year which I managed and improved, ultimately generating \$12M profit/year through trading commodities and related derivatives as well as trading, managing, and mitigating risk of several portfolios.
- Interfaced with developers and technologists to manage C++/FPGA project to improve latencies and develop novel techniques to improve hit-rates and quoting. Was responsible for integration and testing of systems and managing of daily rollouts and system upgrades.
- Responsible for ensuring all U.S. trading systems operational prior to arrival of traders and market opens. Responsible for all daily position reconciliation ensuring required communications with prime broker. Worked directly with developers to define requirements, oversee implementation, and provide functional testing of proprietary internal applications.
- Held certifications Series 56, 7 & 24 and acted as responsible principal overseeing auxiliary Amsterdam office location for the Chicago team.

Wolverine Trading, LLC (Chicago, IL)

***Derivatives Trader, 2008 - 2010***

Developed and maintained multiple applications by using C#, such as risk management applications and production trading engines. Engaged with various trading desks through rotational trader training program.

- Utilized C# to develop numerous production applications to ensure success of traders. Responsible for writing, testing and integrating into production critical applications for managing options portfolio risk.
- Developed novel trading strategies and wrote multiple trading engines from scratch, including automated trading system and proprietary strategy named TACOS (Totally Automated Close Open Strategy) which generated +\$1M profit/year for Delta1 desk.

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*Additional experience as **Summer Analyst** at Goldman Sachs & Co. New York, NY*