KARL NORTHRUP

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EDUCATION

Master of Science

Computer Science
Georgia Institute of Technology
Jan 2020 – Present
4.0 GPA

Graduate Certificate

M.S. Computer Science Foundations
Kennesaw State University
awarded May 2019
4.0 GPA

Bachelor of Science

Chemical Engineering
Texas A&M University
summa cum laude, May 2012
3.94 GPA

EXPERIENCE

Project & Process Engineer

Audubon Engineering
Jun 2017 – Jun 2020
SomeCity, ST

O&G Technology Consultant

OTM Technology
Dec 2016 – Apr 2017
SomeCity, ST

Process Engineer

W.S. Nelson
Sep 2012 – Nov 2016
SomeCity, ST

GRADUATE COURSEWORK

GaTech | KSU

Machine Learning for Trading
Artificial Intelligence for Robotics
Software Development Processes
Mathematical Structures for C.S.
Database Design
Datastructures & Algorithms
Computer Architecture & Op. Sys.
Foundations of Programming

SUMMARY

Chemical Engineer and C.S. graduate student with highly transferable engineering experience solving complex problems within multidisciplinary teams.

Proven ability to deliver successful outcomes manuevering between often disjoint project specifications, industry standards, and client expectations.

PROJECTS

CHEMICAL ENGINEERING | KEY ACHIEVEMENTS

Ethylene Facility Expansion   **Hysys Simulator**

- Led Process Engineering effort from design thru Issue for Construction for major ethylene terminal expansion resulting in 37 % increase in production capacity
- Spearheaded research and development effort to identify key operational deficiencies required to restart offline facility, providing the client with design & cost estimates for planning $25 million expansion effort

Offshore Oil & Gas Separator   **Hysys Simulator**

- Designed and developed 17,000 barrel/day three phase separator for joint BP & Shell effort from initial conception to final shop inspection, resulting in an additional $600k per day in revenue

SOFTWARE DEVELOPMENT | ACADEMIC

ML Stock Trader   **Python / Pandas**

- Built a market similator to process pricing data, orders, and produce portfolio metrics
- Researched stock indicators and tested with manual logic strategy to establish a baseline
- Used machine learning techniques to develope a strategy learner using Random Forest & Bag Learners

JobRank Application   **Android / Java / SQLite**

- Worked with a team to develop UML, Design & Description documents per Project Specification
- Developed job tracking application to rank various job offers for comparison

TextModifier Utility & Library   **Java / jUnit**

- Used Test Specification Language to develop jUnit tests to provide sufficient coverage
- Wrote a command line utility and java library allowing the user to modify text based on several option and arguments

Mars Glider   **Python / Numpy**

- Markov AI algorithms to allow Glider craft to navigate randomly generated fields of obstacles
- Developed SLAM algorithm to solve warehouse problems to optimize paths for highest reward

DATABASE APPLICATIONS | FREELANCE

DB Cranes – Inspection Tracking   **Access**
Thomas Reprographics – Pipe Yard Inventory Tool   **Access**