KARL NORTHRUP

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EDUCATION

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

Graduate Certificate
Computer Science Foundations
Kennesaw State University
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
2016 – 2020
SomeCity, ST

O&G Technology Consultant
OTM Technology
2016 – 2016
SomeCity, ST

Process Engineer
W.S. Nelson
2012 – 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

Engineer and 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.
TODO: decide which ChemEng projects to list & revise all descriptions.

PROJECTS

CHEMICAL ENGINEERING | KEY ACHIEVEMENTS

Ethylene Facility Expansion   **Hysys**

- Led Process Engineering effort to debottleneck and expand major ethylene terminal
- Responsible for process design, optimization, and sizing of capital assets
- Primary engineer from front-end engineering design phase to Issue for Construction

Offshore Separator Package   **Hysys**

- Designed and developed 500k barrel/day separator for joint BP & Shell effort
- Led process engineering effort from conception to final shop inspection

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**