

KARL NORTHROP

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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 maneuvering between often disjoint project specifications, industry standards, and client expectations.

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 simulator 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 develop 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