

# ZACK LIGHT

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## SELECTED WORK EXPERIENCES

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### Amazon.com

Software Engineer

Seattle, WA

July 2020 - Current

- Develop a search engine for developers with Lucene

### Nokia Bell Labs, Deepfield Networks

Software Engineer Intern

Ann Arbor, MI

May 2020 - August 2020

- Extend high-volume (petabytes) networking data pipeline for 6.1 billion subscriptions' instant analytics, security
- Enhance multi-thread system of 47k LOC to manage deployments on AWS, docker for 100+ engineers globally

### Software & Application Innovation Lab

Software Engineer Intern

Boston, MA

May 2019 - August 2019

- Automated pose estimation of mice with transfer learning (ResNet) for 17 TB of videos in Python and Bash
- Built React app visually comparing confounding biases for papers, reducing CircleCI deployment time by 28%
- Expanded functionalities in genetic design codebase with Spring, Neo4j, RESTful APIs, and microservices
- Developed progressive Angular app for teens with learning disabilities to socialize

### Information Systems Department, Boston University

Research Assistant

Boston, MA

January 2019 - August 2019

- Trained and optimized LSTM model (90%+ accuracy) with about 1000 samples to classify gun violence news
- Validated new embedding-based metrics on information diversity with large SQL and flat-file datasets

### China Minsheng Banking Corp. (36<sup>th</sup> largest bank globally - S&P)

Algorithm Engineer Intern, Robo-Advising Team

Beijing, China

June 2018 - August 2018

- Built context-aware chatbot with neo4j to converse with security buyers, facilitating 200+ employees
- Engineered scalable program to rank, classify, and summarize news to publish on WeChat using modified TF-IDF and MMR algorithms (processing 33,582 word/s on average, 5 people's daily workload)
- Developed deep learning models (LSTM) trained from 500K+ news articles for sentiment analysis

## PROJECTS

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### Study Together!, discord.me/studytogether

November 2020 - Current

- Create a system from scratch real-time to rank 510K+ members' online study time, used for over 3 centuries
- Develop a MySQL database logging users' time records and backend for websites & dashboards

### Networking Data Dissector, Nokia

May 2020 - August 2020

- Convert data three-way among network layer packets, data structures, and Kafka brokers with C & Cython
- Reduce time (52%) and memory usage of building BGP IPv4&6 route maps using Pandas vectorized operations

### Crowd Sourced Internship Opportunities

July 2019 - October 2019

- Founded and managed crowd sourced React website for internship opportunities in 2020 (68k~ unique views)
- Support CSV import/export, column filter, search, sort on the web

## SKILLS

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**Foundation:** Python, C++, C, JavaScript, Java, R, OCaml, SQL, NoSQL (MongoDB, Neo4j), shell, Linux, Vim, LaTeX

**Tools:** Git, Docker, regex, Hadoop Ecosystem, TensorFlow, Scikit-learn, Shiny, React, Angular, Flask, Spring, Rasa

**Domains:** machine learning, web/mobile development, web crawling, task automation, data visualization

## HONORS & AWARDS

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**Most Outstanding Graduate Submission**, Global Vivli-Microsoft (Privacy) Datathon, Boston

June 2019

**1st place**, Google Cloud & NCAA hackathon, MIT

January 2019

**Project Demonstration**, Alibaba Apsara/Yunqi Computing Conference, Hangzhou, China

September 2018

**Best Sector Presentation**, BU Finance & Investment Club

April 2017 & April 2018

## EDUCATION

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**University of Michigan**, College of Engineering, Ann Arbor, MI

May 2021

Cumulative GPA: 3.956/4.0

*BSE, Double Major in Computer Science & Data Science, Minor in Mathematics*

*Activities: Michigan Data Science Team - VP of Education, Machine Intelligence Community*

*Classes: Computing Systems, Databases, Computer Security, Programming Languages, Search Engine, Computer Vision, Natural Language Processing, Computational Finance, Bayesian Statistics, Real Analysis, Stochastic Processes*