

# Abay Akturin

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## EDUCATION

### New York University

December 2021

### M.S. Computer Engineering

New York City, New York

**Relevant Coursework:** Data Structures & Algorithms, Operating Systems,

GPA: 3.06

Intro to Machine Learning, Machine Learning for Cybersecurity,

Deep Learning, Database Systems, Internet Architecture & Protocols

### The Ohio State University

May 2018

### B.S. Chemical Engineering

Columbus, Ohio

## SKILLS

- **Languages:** Python, Go, C++, JavaScript/TypeScript, Java, C#, Swift
- **Technologies & Frameworks:** React, .NET, PyTorch, Tensorflow, Django, Node, MongoDB, PostgreSQL, Hive, PySpark, Docker, Dorado, Coral, Aeolus, Jupyter

## PROFESSIONAL EXPERIENCE

### ByteDance Inc. (TikTok)

May 2021 - August 2021

**Machine Learning Engineer Intern** | Python, Go, PySpark, Hive, Docker

New York City, New York

- Built ML infrastructure for generating 160 model ranking features from 2TB+ of advertisement data.
- Conducted data analysis on 8TB of advertisement data and explored the correlation between features and user purchases.
- Created a technical document on the internal ML platforms and tools that collected 137 unique views, was shared across 5 teams, and has been included in the corporate Wiki.

### iSate

July 2019 - June 2020

**Fullstack Software Engineer** | C#, .NET, Tesseract, Sharepoint, Javascript

Nur-Sultan, Kazakhstan

- Adapted the .NET version of Tesseract OCR for SharePoint with a daily workload of 3K+ pages and UI localization.
- Optimized and refactored code for 10 modules across multiple versions of the Microsoft Sharepoint.
- Collaborated with 5 colleagues on negotiations with 8 foreign IT companies in building internal tooling software.

### Flex

October 2018 - April 2019

**Process Engineering Intern** | Python, MySQL, Django

Austin, Texas

- Designed a data pipeline using Python and SQL to automatically generate reports on manufacturing projects.
- Raised the manufacturing production rate by 15% for the Hewlett Packard Enterprise manufacturing process.
- Supervised 20 manufacturing technicians and 3 production lines with an estimated released product total value of \$1.5M USD after 3 months.

## PROJECTS

### NeuralProtect

**Neural Network Backdoor Trojan Attack Detection** | Tensorflow, YouTube API, SciPy

- Designed a STRIP-based backdoor detector against trojan attacks and trained it on the YouTube Face dataset.
- Achieved an attack success rate with the minimum of 93.5% for targeted attacks and 81.32% for untargeted attacks.
- **Cybersecurity Prize for Greater Good at NYU Weekly Hackathon 2020.**

### WFH Workout

**Home Workout Embedded Microcontroller** | C++, Assembly, STM32 microcontroller, PlatformIO

- Utilized STM32 microcontroller board accelerometer to track real-time workout data.
- Implemented on-device detection of sit ups, pushups, jumping jacks and squats.
- Developed real-time user feedback system utilizing STM32 microcontroller LEDs.

## INVOLVEMENT

### Engineers for Outreach

June 2020 - May 2021

### Vice President of Activities

New York University

- Provided mentorship for students studying in developing countries interested in technical opportunities.
- Presented online lectures on new technologies and frameworks for audiences of 50+ students in Kazakhstan.
- Organized and participated in tech-related events, hackathons, and socials.