Nicholas Konovalenko

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EDUCATION:

University of Michigan - College of Engineering, Ann Arbor, MI
Bachelor of Science in Engineering, Computer Science — Dec 2021
GPA: 3.3
Relevant Coursework: DS&A, Security, Machine Learning, Computer Vision, Web Systems
Artificial Intelligence (In Progress), Computational Linguistics (In Progress)

TECHNICAL SKILLS:

Programming: Python, Java, C++, C#, Java Script, C, HTML, CSS
Skills: AWS Architecture, DynamoDB, EC2, Git, Bash, Unit Testing, Junit, Mockito
Areas of Interest: Computer Vision, UI, Machine Learning, Security, Software Engineering

RELATED EXPERIENCE:

SDE Intern – Amazon, Sunnyvale California — May – August 2021

- Collaborated with Camera, Computer Vision and QA teams to design an automated testing platform
- Processed 15 MB of data per 100 milliseconds, resulting in throughput of 150 MB per second
- Implemented a multithreaded approach to have small increase on ARM Core's CPU and RAM for a producer-consumer pattern
- Reduced time taken per test by 91% from 3 minutes to 15 seconds
- Presented completed project to Amazon L6 managers and L7 Principal Engineers

Software Engineering Intern – Quicken Loans, Detroit MI — June – August 2020

- Allowed for scalability of loan document ingestion platform with web application saving 3,100+ hours of dead time
- Designed a full stack web application to dynamically generate code based on banking analyst input
- Developed backend orchestrator REST API using C# that communicates with UI, DynamoDB, and other services
- Implemented AWS service architecture diagram to aid in infrastructure deployment to test, beta, and prod environments
- Exposed models of document input schemas via NuGet package generation script and CI/CD pipeline

Technical Services Intern – Frankenmuth Insurance, Frankenmuth MI — May – August 2019

- Consolidated 8 C# task killing applications into 1 Power Shell Application rolled out company-wide.
- Developed a daily script to back up 20,000+ records from SQL databases to Service Now using PowerShell.
- Reduced the run time of the script from 72 hours to 10 minutes by implementing a hash set instead of a vector.
- Collaborated with Security Team to automate malicious URL incident creation in Service Now using Java Script.
- Improved Incident SLA breach notification accuracy to 100% by reducing workflow code duplication by 80%

PROJECTS:

(**Python**) Go AI Bot — Summer 2021

- Created several artificial intelligences to play the board game Go using Naïve as well as Machine Learning approaches
- Optimized MiniMax approach by comparing Depth pruning and AlphaBeta pruning
- Created a multilayer perceptron bot, and a bot that trains a Convolutional Neural Network on high level games
- Ran the CNN training algorithm on AWS, to achieve 98% accuracy on 100 games, and 30% accuracy on 5000 games
- Designed a front end using HTML and Javascript so that the bot can be plugged into online matches soon

(**Python/Java**) Google FooBar Competition — Summer 2019

- Optimized algorithms to be able to handle up to 10^{100} points of input with O(n) space & O(n*log(n)) time complexity.
- Developed efficient algorithms to handle Graph Theory, Combinatorics, and Dynamic Programming.
- Completed 5 levels with 9 total programming challenges that increased in difficulty with each challenge.

(**C++**) Piazza Post Machine Learning — May 2019

- Applied natural language processing and machine learning to identify the subject of EECS 280 Piazza posts.
- Implemented a Binary Search Tree and Map ADT for a Multi-Variate Bernoulli Naïve Bayes Classifier algorithm.
- Trained a machine on 11,000+ posts to classify 3,000 posts with 90% accuracy using the algorithm mentioned above.

LEADERSHIP:

President of University of Michigan Chess Team — May 2021 – Present
Vice President of External Affairs at Michigan Hackers — March 2020 – May 2021
University Residential Advisor — August 2019 – May 2021