VINCENT NIKOLAYEV

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EDUCATION

NEW YORK UNIVERSITY – TANDON SCHOOL OF ENGINEERING (May 2021) New York, NY

Master of Science: Computer Science – **GPA: 3.9**

- *Concentrations*: Computer Science Theory; Software Engineering; Data Science
- *Selected Coursework*: Compiler Design, Computer Graphics, Big Data, Machine Learning, Analysis of Algorithms, Operating Systems, Computer Networking, Information Visualization, Discrete Mathematics

CUNY BARUCH COLLEGE (May 2018) New York, NY

Bachelor of Arts: English, Business Communications. Minor: Statistics & Quantitative Modeling – **GPA: 3.8**

- Graduated Magna Cum Laude

WORK EXPERIENCE

TEACHING ASSISTANT, COMPUTER SCIENCE BRIDGE – New York University (Feb 2019 – Present) Remote

- Host weekly live, recorded tutoring sessions and answer questions on the online class forum on foundational topics of Computer Science, including Discrete Mathematics, Programming with C++, Algorithms & Data Structures, Operating Systems, and Computer Networking
- Mentored 250+ students through six cohorts in successfully transitioning into the MS in CS program at NYU Tandon
- Grade exams and assignments and developed a Golang tool to automate parts of the workflow, including running and testing submitted code

DATA ANALYST – Tapinator Inc. (Jul 2016 – Aug 2020) New York, NY

- Created and maintained Company's average paying user life model for audited public revenue reporting
- Performed statistical analysis on game data, including user and monetization metrics, to improve product design
- Retrieved, grouped, and cleaned large datasets from different data warehouses with SQL and Python's Pandas
- Visualized data and metrics with Python's Matplotlib, D3.js, and Plotly and presented findings to management
- Developed parallelized web scrapers to efficiently collect data from APIs and HTML pages

SKILLS

SOFTWARE DEVELOPMENT

- *High Proficiency*: C++, Python and its popular Data Science libraries, Rust, Golang, Javascript, Vue.js, Git
- *Proficiency*: HTML/CSS, SQL, Spark, Unity, OpenGL, Godot

OTHER

- Fluent in Russian

PROJECTS

- 3D Scene Forward Renderer: github.com/vinceniko/3D-Scene-Renderer/tree/demo
  - Implemented graphics algorithms to support directional lighting, multiple point lights, shadow mapping, dynamic cube-mapped reflections, anti-aliasing, post-processing effects
  - Implemented multi-threaded runtime hot reloading of shader files for instantaneous feedback without app restarts or recompilation
  - Implemented a trackball camera with perspective and orthographic projection modes
  - Wrote a .off mesh loader and code to select and transform meshes at runtime based on user input
  - Tech Stack: C++17, OpenGL, GLM, CMake
- Big Data Column Metadata Profiler: github.com/vinceniko/NYC-OpenData-Profiling
  - Utilized high-performance parallel computing clusters to derive metadata for 1800+ datasets from NYC's Open Data Repository
  - Implemented frequent pattern mining and similarity aggregation algorithms to identify semantic types
  - Created a benchmarking tool to measure runtime performance such as execution time
  - Tech Stack: Python, Spark, Hadoop, SparkSQL, Pandas
- Compiler for the Cool language: github.com/vinceniko/cool-compiler
  - Passes 100% of reference test cases for lexing, parsing, and code generation
  - Tech Stack: C++14, Flex Lexer, Bison Parser, MIPS Assembly
- Python Machine Learning classifier of book blurbs based on genre: github.com/vinceniko/BlurbGenreClassification
  - Implemented SVM and Neural Network classifiers
  - Visualized results with heatmaps and other charts for the deliverable report
  - Tech Stack: Python, Scikit-Learn, Tensorflow, Numpy, Pandas, Seaborn, Matplotlib
- Personal blogging and portfolio site developed with Vue.js: vinceniko.github.io
- Tetris clone developed in Rust, runnable in the browser with WASM: vinceniko.github.io/projects/tetrust
- Configurable Fractal Tree generator – Rust computation, p5.js rendering, and Vue.js GUI: vinceniko.github.io/projects/fractal_trees