apinis.org
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Mark Apinis

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Boston, MA

Professional Experience

Applied Technologies Co-Op, Automation Engineering; Moderna, Inc., Norwood, MA — Jan.-Jun. 2024

- Developed scripts and researched tools & software to automate engineering lab tasks such as electrical design, 3D printing queues, label generation, and lean organization through 5S principles.
- Expanded my skills through exposure to electrical and mechanical engineering, taking ownership of planning and building smaller demos while assisting in assembling, organizing, and testing major projects.
- Utilized enterprise LLMs as a digital assistant to automate simple tasks, freeing time for harder work.
- Created training materials and strengthened my understanding of the pharmaceutical industry.

Technology Used: Python 3 (pyodbc, wx), SQL, SolidWorks CAD, SEE Electrical, Git, PLCs/HMIs

Computational Chemistry Co-Op; Novartis AG, Cambridge, MA — Jul.-Dec. 2022

- Engineered Python scripts for data analysis studies and cheminformatics tools for drug discovery.
- Wrote an extension for scientists to directly transfer chemical data from Schrödinger Maestro to internal processing pipelines, reducing dependence on costly 3rd-party software.
- Designed algorithms and structures to compare terabytes of chemical data for a statistical analysis study, requiring both computer systems and molecular structure knowledge.

Technology Used: Python 3 (rdkit, Pandas, NumPy, matplotlib, pip), Jupyter, Git, PowerShell, Bash

Software Engineering Co-Op; Intuit Inc., Remote — Jun.-Dec. 2021

- Wrote full-stack production code for QuickBooks Live to facilitate reliable customer to expert interactions.
- Used key engineering and teamwork concepts, such as version control and branching, agile development, integration/automation testing, RUM, feature flags, and data security.

Technology Used: JavaScript (React.js, Redux, Jest), Jira, Git, Docker, Java, Splunk, Camunda Workflow

Technical Skills

Proficient in Python 3 *(Pandas, NumPy)*, R *(caret)*, JavaScript/TypeScript *(React.js, Node.js, socket.io, Jest)*, Git, LaTeX
Familiar with ML methods, statistical testing, Bash, C, Java, Agile Development in Jira, MySQL, biology lab safety
Knowledge of Camunda Workflow, PLC Programming, Splunk, Docker, C++, macOS and Windows troubleshooting

Education

Northeastern University, Boston, MA

- **M.S. Bioinformatics** *(College of Science, PlusOne Program)* — Aug. 2024
  GPA: **3.94**/4; *Coursework:* Binf. Programming/Methods/Stats., Computer Systems, Machine Learning
- **B.S. Computer Science and Biology; Minor Mathematics** *(Khoury College of Computer Sciences)* — Apr. 2023
  Graduated *Summa Cum Laude*, GPA: **3.95**/4; *Coursework:* Software Engineering, Algorithms and Data, Theory of Computation, Database, Biochemistry, Organic Chemistry, Microbiology, Genetics, Statistics

Teaching Experience

Teaching Assistant, Northeastern University, Khoury College of Computer Sciences, Boston, MA
Held office hours, lead lab sections, created assignments, and graded to solidify students' understanding of:

- **CS3000 Algorithms and Data:** Recursive, dynamic, greedy, randomized, and graph algorithms, their formal correctness, and their time and space complexities; Crucial data structures and their representations. — Fall 2023
- **CS3800 Theory of Computation:** Formal language theory, automata, regular expressions, grammars, Turing machines, recognizability and decidability, reduction proofs, completeness, and P vs. NP. — Summer 2023
- **CS2510 Fundamentals of Computer Science 2** (Spring 2021/22); **CS1800 Discrete Structures** (Fall 2020)

Projects

An Ensemble Model to Classify Voter Propensity from Census Data, available on request – *R, Python 3* — Spring 2024

- Built Naive Bayes, logistic, and neural network classifiers to predict if a person voted from demographic data, and combined into an ensemble model. Written as an RMarkdown report detailing thinking and decisions.

Covey.Town Feature Expansion, available on request – *TypeScript: React.js, socket.io, Node.js, Phaser* — Spring 2023

- Added emoji reactions and aggregate moods to a virtual video chat game as a capstone project. Worked with a small team to propose, scope, implement, and present the features through an agile process.