apinis.org
github.com/mapinis
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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 integrated tools & software to automate engineering lab tasks (electrical design, 3D printing queues, label generation, lean/5S) using **Python 3 *(pyodbc, wx)*, SQL, Git, and SmartSheet**.
- Directed the planning and development of bench-top demos and supported the assembly, organization, and testing of major projects by applying electrical, control systems, and mechanical engineering skills with **SEE Electrical, Productivity PLCs, and SolidWorks CAD**.
- Compiled comprehensive offboarding documentation, guides, and presentations for tools, scripts, and processes to ensure seamless project handovers and knowledge transfer.
- Created ground-up training pathways for 3D printers and laser cutters by integrating online education materials and self-produced videos, streamlining onboarding processes.
- Leveraged enterprise LLMs as digital assistants to automate repetitive tasks, freeing time for problem-solving.

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

- Engineered **Python 3 *(rdkit, Pandas, NumPy, matplotlib)*** scripts for complex data analysis studies and cheminformatics tools for drug discovery.
- Built an extension enabling direct transfer of molecular data from Schrödinger Maestro to internal processing pipelines, reducing reliance on costly 3rd-party software, using **Python, pip, PowerShell, and Git**.
- Formulated algorithms and data structures to compare terabytes of chemical data for a statistical analysis study with **Python, Bash, and JupyterHub**, requiring both computer systems and molecular structure knowledge.

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

- Delivered full-stack production code for QuickBooks Live to facilitate reliable customer to expert interactions, both customer-facing with **JavaScript *(React.js, Angular, Redux, Jest)*** and administrative tools with **Java**.
- Applied engineering and teamwork strategies, such as version control with **Git**, agile development with **Jira**, integration/automation testing with **Docker and Cypress**, and real-user monitoring with **Splunk**.

Technical Skills

Programming Languages/Frameworks	**Engineering/Development Tools**	**Data and Life Science Methods**
JavaScript/TypeScript *(React.js, Node.js, Next.js, socket.io)*, Python 3 *(Pandas, NumPy, matplotlib)*, R, Bash, SQL, Java, C	Software Testing, Git, CI/CD, Agile Development with Jira, Docker, PLC Programming, AWS Lambda & DynamoDB	Machine learning, statistical testing, biology and chemistry lab methods, sequencing and genome assembly

Education

Northeastern University, Boston, MA

- **Master of Science in Bioinformatics** *(College of Science)* — August 2024
  GPA: **3.94**/4; *Coursework:* Bioinformatics Programming/Methods/Stats., Computer Systems, Machine Learning
- **Bachelor of Science in Computer Science and Biology** *(Khoury College of Computer Sciences)* — April 2023
  Minor: **Mathematics**; Graduated *Summa Cum Laude*, GPA: **3.95**/4; *Coursework:* 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, proctored exams, led lab sections, created assignments, and graded to help students learn:

- **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. — Sep.-Dec. 2023
- **CS3800 Theory of Computation:** Formal language theory, automata, regular expressions, grammars, Turing machines, recognizability and decidability, reduction proofs, completeness, and P vs. NP. — Jun.-Aug. 2023
- **CS2510 Fundamentals of Computer Science 2** (Jan.-Apr. 2022); **CS1800 Discrete Structures** (Sep.-Dec. 2020)

Projects

Bikeability, apinis.org/bikeability – *AWS: Lambda, DynamoDB; TypeScript; Next.js, Node.js; OpenAI API; NWS API* — October 2024

- Work-in-progress website for cyclists to get current weather information. Uses ChatGPT API to make readable cycling-focused summaries and 24-hour forecasts. Serverless backend with caching to save on API costs.

Apinis.org, github.com/mapinis/mapinis.github.io – *TypeScript: Next.js, React.js, Node.js; GitHub Actions CI/CD* — August 2024

- Portfolio website, with basic info, hobbies, and projects. Open source and continuously deployed static site.

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