Sean Dickson

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LinkedIn
GitHub Portfolio

Summary

AI & Software Engineer with a strong foundation in Python, data-driven systems, and cloud infrastructure. Former synthetic biologist with a track record of building automation tools, optimizing data systems, and applying algorithmic thinking to real-world engineering challenges.

Relevant Projects

See GitHub for full code and results.

HuffmanEncoder

Data Compression Module via Binary Trees

Implemented a binary tree-based Huffman compression system in Python. Achieved efficient text encoding with O(n logn) complexity.

MultiSorter

Algorithmic Sorting Suite for Performance Benchmarking

Developed and benchmarked sorting algorithms (Quicksort, Merge Sort, Natural Merge Sort).

BeerDieStatRecorder

Serverless SMS-based Game Stat Tracking System

Developed a cloud-based game statistics tracker using AWS and Twilio to process SMS-submitted data, enabling persistent player profiles and real-time stat updates.

Technical Skills

Programming: Python, Java, R, C, Swift, MATLAB, JSON, XML

AI/ML: OpenCV, NumPy, Pandas, YOLO, scikit-learn, PyTorch (familiar)

Cloud & DevOps: AWS (Lambda, Ec2, S3, DynamoDB), Docker, REST APIs

Frontend: HTML, CSS, JavaScript, PyWebIO

Backend: ETL Pipelines, MySQL, Webhooks, Flask

Tools: Git, CI/CD Pipelines, Jupyter, Visual Studio Code, Linux

Experience

Recombia Biosciences

Consultant | Software and Data Engineering (Remote)

Sep 2024 – Current

Collaborate with U.S. and France-based teams to standardize and automate LIMS data models and processes. Develop Python + GitLab-based automation tools for data synchronization, ingestion, and validation. Build Benchling Apps and REST API pipelines to increase throughput and traceability.

→ **Reference:** Anthony DeNicola (Manager) | denicola.ab@gmail.com

Synthetic Biology Engineer

Sep 2021 – Sep 2024 | **3 Years**

Led software automation initiatives integrating Benchling databases and experimental data pipelines. Used RESTful APIs and built SQL ETL systems for data ingestion and analysis. Deployed AWS Lambda and EC2 instances to scale data processing. Visualized data in Python using seaborn/matplotlib and R.

→ **Reference:** Justin Smith (CEO/CSTO, Manager) | (858) 531-2262

University of California, Los Angeles

Undergraduate Researcher, Computational Bio (Remote)

Jun 2020 – Jun 2021 | **1 Year**

Collaborated with PhD scientists to develop a Python-based search tool for metabolic engineering, automating analysis of biochemical pathways. The work involved applying algorithmic problem-solving and data retrieval techniques.

Harvard Medical School

Summer Intern, Synthetic Biology

Jul 2019 – Sep 2019 | **3 Months**

Designed and implemented Python scripts for DNA sequence optimization in a gene-editing research environment. Learned to use version control (Git) and basic data science tools like Jupyter, Pandas, and NumPy.

Education

Jan 2025 – Current

M.S. Artificial Intelligence | Johns Hopkins University

Relevant Coursework

Completed/Current: Creating AI-Enabled Systems, Data Structures, Algorithms for Data Science, Linear Algebra, Probability & Statistics

Future: Production AI, Artificial Intelligence, Applied Machine Learning, Deep Neural Networks, Deep Learning, Assured Autonomy

Sep 2018 – Jun 2021 | **3 Years**

B.S. Biochemistry | University of Washington

Relevant Coursework

Accelerated Intro to Computer Science, Physics, Calculus, Genetics