

Yosef A Miller

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A 2023 MS candidate in AI with career interests in engineering and artificial intelligence, and skills in programming and mathematics

TECHNICAL ABILITY

Technological Experience:

- Languages: MATLAB, Python, PHP, JavaScript, Kotlin, Excel Power Query M, Arduino
- Frontend: HTML, CSS (Tailwind, Bootstrap, Material Design), JS (VueJS, jQuery, AlpineJS)
- Server: MySQL, Laravel, Django, Nginx, Ubuntu, Tornado
- Services: Google Apps Script, Twilio, AWS, Dropbox, WebKit Extension
- DevOps: Docker, Vagrant, Composer, NPM, pip, Git, Webpack, Artisan
- Adobe Suite: Premiere Pro, After Effects, Bridge, Photoshop

Programming Websites and Profiles:

- www.github.com/yosefmiller | shared my Shape Context OCR repository under an open license
- www.bitbucket.org/yosefmiller | shared model templates and implementations for NASA

EXPERIENCE

Workflow Automation

Independent Contractor

Jool Baby Products

September 2022 – Present

Developed customized algorithms to automate the batch ingestion of retail invoice data for a supply distribution center. Utilized Advanced Power Query Editor as an ETL to extract relevant content from an EDI output in preparation for shipping document generation.

Full-stack Web Developer

NIRC Work Study Program

ALDIS: Audio Lecture Distribution Information System

December 2021 – September 2022

Developed a full-stack web application to efficiently query a multi-tenant SQL database using a versatile taxonomical filtering scheme. Integrated an object-oriented pattern with Laravel PHP framework to composite request data into a query structure to provide advanced query capabilities and search methods.

Youth Outreach Program Director

Arrange and lead a weekly religious outreach program, providing a positive social and educational experience for local elementary and middle school youth.

ChillZone, 2019 – Present

Software Development Intern

Exoplanet Modeling and Analysis Center

NASA Goddard Space Flight Center

Summers 2017/2018, Present Volunteer

- Constructed a fully featured, rich web template for exoplanet calculation tools hosted by [EMAC](#).
- Integrated the PHP template with Python code and rendered the results coupled with plots.
- Launched the [Lightkurve Web Interface](#) to dynamically search and analyze astronomical flux time-series data using the Lightkurve python package.
- Improved the user interface and experience for the [Pandexo](#) exoplanet modeling tool.
- Proposed a comprehensive, responsive redesign for the [GSFC Sciences and Exploration](#) website.
- Learned invaluable collaboration skills, workplace practice, and values of working as a team.

Full-stack Web Developer

Volunteer, Local Educational Institution

Greater Washington Community Kolllel

April 2016 – March 2017

- Designed and deployed a contemporary website, accessible at gwckollel.org
- Built a customized and secure administrative interface to manipulate content and upload graphics.
- Created a highly organized web-space with custom MVC routing.

Computer Vision

First Place, High School Science Fair

Shape Context - Optical Character Recognition (OCR) Algorithm

March 2017

- Developed my own OCR algorithm to isolate and extract text within an image. Implemented *Canny Edge Detection* and *Shape Context* descriptors for improved pattern recognition.
- Provided a visual interface to train and detect loaded shapes, including plots of matching results.
- Wrote a JavaScript implementation of a Template Matching approach using L_2 Norms and various statistical comparisons.
- Micro-optimized MATLAB code for time-efficient execution by utilizing matrix operations.
- Project summary and MATLAB source code is available at: github.com/yosefmiller/shape-context-ocr

Web Developer

SnapQu

Mobile Tutoring

December 2014 – December 2015

- Developed a web-based interface that enables students to receive instant help on math problems
- Integrated into the end-to-end PHP system as a supplement to mobile application.

EDUCATION

Johns Hopkins University, Whiting School of Engineering

GPA: 4.0/4.0

Graduate Student: M.S. in Artificial Intelligence

January 2022 – Present

Courses: Probability and Statistics, Data Structures, Algorithms for Data Science

Ner Israel Rabbinical College

GPA: 3.96/4.0

Bachelor of Talmudic Law

December 2021

Master of Talmudic Law

Present

Hybrid Study Program that combined Yeshiva studies with core engineering curriculum in conjunction with University of Maryland and CCBC

- Key Courses: Multivariate Calculus, Differential Equations, Linear Algebra, Physics, Chemistry, Engineering Design, Academic Writing

Yeshiva of Greater Washington

GPA: 4.0/4.0

High School Diploma

June 2017