

# Eric Khalil Zacharia

Data Science – Masters Student

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## EDUCATION

**University of Chicago** | Chicago, IL | *M.S. in Computer Science, Specialization in Data Analytics* **December 2021**

☛ Courses: Machine Learning, Computational Data Analysis, Algorithms, Advanced Python, Databases, Web Development

**Syracuse University** | Syracuse, NY | *B.S. in Aerospace Engineering*

**May 2016**

☛ Awards: George M. Berry Award for Outstanding Design Achievement in Engineering

## SKILLS AND LANGUAGES

**Proficient** Python, Pandas, NumPy, Git, Excel, MATLAB, HTML5, CSS3, Word, Windows & Mac OS

**Beginner** R, JavaScript/ES6, PHP, MySQL, Flask, React, LaTeX

## TECHNICAL RESEARCH & PROJECT EXPERIENCE

**Various Projects** | Chicago, IL

**September 2020 – Present**

- ☛ Programming: Developed LRU cache, AVL tree, interactive Blackjack game, text-completion suggestions, Manhattan distance calculator with Google Maps API, Nand2Tetris projects including a personal “Blob” video game, translators and compilers between machine code, assembly language, virtual machine code, and the high-level Jack programming language
- ☛ Web Development: Personal wedding website, group chat web application with asynchronous JavaScript and REST API written in Python with Flask, Pinterest mood board clone with Bing image search API, and a Content Management System for a web journal that supports posts and comments

**Speaker Recognition System** | Chicago, IL

**September 2020 – December 2020**

- ☛ Wrote a Python program that compares scripts of text from two known speakers and one unknown speaker as input, and outputs the speaker who most likely spoke the unknown script
- ☛ Implemented an open addressing hash-table, a Markov Model, and Seaborn plots displaying run time analysis

**Buy vs. Rent Calculator** | Wichita, KS

**November 2017 – Present**

- ☛ Designed a user-friendly spreadsheet calculator that shows a month-to-month profit comparison for one’s current rental situation against their desired home purchase and sold a copy to a local brokerage firm
- ☛ Optimized the accuracy of the calculator with knowledge of the home buying experience, principle, interest, escrow, loans, taxes, utilities, closing fees, insurance options, inspections, agent fees, etc.

**Hydrodynamics of Dolphin Caudal Fins** | Syracuse, NY

**June 2015 – May 2016**

- ☛ Studied the fluid dynamics and propulsive aspects of dolphin tails and experimented with 3D printed dolphin caudal fins that mimicked swimming motion inside a water tunnel
- ☛ Synthesized knowledge of MATLAB, Excel, SolidWorks (CAD), 3D printing, Arduino, planar laser-induced fluorescence, HD videography, aerodynamics, fluid dynamics, and electrical circuits
- ☛ Used fluorescent dye, highlighted with planar-shaped lasers, to outline trailing edge vortices, and created 3D vortex visualizations constructed on MATLAB using pixel data from the HD recordings of the 2D vortex sheets

**Model Aircraft Competition** | *First Place Winner* | Syracuse, NY

**January 2016 – May 2016**

- ☛ Engineered, built, and flew a six-foot model aircraft using a DC motor, balsa wood, and composites materials by using knowledge of aerodynamics, stability and control, electrical engineering, and 3D printing

## WORK EXPERIENCE

**Spirit AeroSystems, Inc.** | *Aerospace Stress Engineer, Structural Analysis* | Wichita, KS

**August 2016 – August 2020**

- ☛ Worked on teams that designed, built, analyzed, and tested the fuselages for The Department of Defense, Boeing’s 787 Dreamliner, and Boeing’s 777X; gained promotion to Level II Stress Engineer within 18 months
- ☛ Applied knowledge of MATLAB, Excel, linear algebra, ABD matrices, statics, dynamics, fatigue, damage tolerance, crack growth, Finite Element Analysis, Computer-Aided-Design, and properties of aluminum and composite materials

**Glacier’s Bed and Breakfast** | *Airbnb Rentals - Super Host* | Wichita, KS

**July 2018 – March 2020**

- ☛ Purchased a 3-bedroom home and became a self-employed Super Host by sustaining a 5-star rating with over 80 bookings

## EXTRACURRICULARS & CERTIFICATIONS

Secret Government Security Clearance | Private Pilot | Open Water Scuba Diver | Learn to Ice Skate Instructor  
Varsity Ice Hockey Coach | Alternate Captain, Syracuse University Roller Hockey