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# JAVID ALEXANDER FATHI

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## SUMMARY

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Computer science student seeking opportunities in systems operations and software engineering.

- Dynamic fast learner – completed undergraduate degree in 3 years. Hired as a teaching assistant for engineering courses after first semester of freshman year.
  - Experience in interdisciplinary research, community service and project management.
  - Currently in final semester of university; producing a backend application MVP for a Louisville startup using Agile methodologies – analyzing and optimizing ROIs for healthcare providers.
  - Studying database topics using Docker, NoSQL, and AWS (RDS, MongoDB).
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## EDUCATION

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***B.S. with Honors, Computer Science, Minor in Mathematics***, University of Kentucky (in-progress)  
Projected Graduation: May 2021, Cumulative GPA: 3.875

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## TECHNICAL SKILLS

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- 2+ Years: Linux Bash Scripting, Python, C, C++, MATLAB
  - 5+ Years: Computer & Digital Animation, CAD Modeling & Design
  - Proficient: Docker, Java, R, SQL, C#, Prolog, JavaScript, HTML/CSS
  - Pending: AWS Cloud Practitioner & Solutions Architect Certifications
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## WORK EXPERIENCE

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### University of Kentucky, Lewis Honors College

Student Researcher & Consultant, *Savané Silver*, January 2020 to May 2020

- Conducted entrepreneurial audit to support CEO's vision, mission & strategy.
- Presented research and tools to increase company's market value.

### University of Kentucky, College of Engineering

Undergraduate Teaching Assistant, multiple courses, January 2019 to Present

- Produced assignments and materials for UK's First-Year Engineering Program.
- Tutored students in introductory programming using Python and MATLAB.

Student Researcher, *Next-Gen Challenged Networks*, August 2019 to December 2019

- Conducted LAN experiments to study wireless networking research.
  - Used USRPs & threaded programming to study digital signal processing.
  - Prepared documentation on GNU-Radio, Python scripting libraries for future researchers.
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## COLLEGIATE HONORS

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W.C. Parker & Patterson Scholar, University of Kentucky, recognized Spring 2018

College of Engineering Dean's List, University of Kentucky, five-time recipient

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## SELECTED WORKS

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Cited documents – and additional work samples – are available at this public repository:  
<https://github.com/jfathi/research-uky>

Software samples are written in Python, unless indicated otherwise.

### **Steps Forward – Advancing Diversity at the University of Kentucky**

Internal Memo to the University's Black Student Advisory Council, August 2019

Written on behalf of Dr. Karl Reid, Executive Director, National Society of Black Engineers

### **Monte Carlo Markov Chain – Gibbs Sampling & Bayesian Networks**

Approximating conditional probabilities in a simple Bayesian Network, November 2020

Prepared for Dr. Judy Goldsmith, CS-463G: Introduction to Artificial Intelligence

### **Network-Private Remote Folders – Novel Software Development**

Socket Programming Solutions at the Application Layer, April 2020

Prepared for Dr. Simone Silvestri, CS-371: Introduction to Computer Networking

### **A\* on the Master Pyraminx – Novel Software Development**

Design and implementation of an A\*-based solver on a Master Pyraminx, September 2020

Prepared for Dr. Judy Goldsmith, CS-463G: Introduction to Artificial Intelligence

### **UNIX Terminal Shell – Novel Software Development**

Object-oriented command-line software written in C++, November 2019

Prepared with Will Taylor for Dr. Raphael Finkel, CS-270: Systems Programming

### **Tiling for Tots – A Study & Application of Golomb's Tromino Theorem**

Research and Scratch game used to teach introductory algorithms, December 2019

Presented to aspiring computer scientists at UK's Engineers Day, February 2020

Prepared for Dr. Jerzy Jaromczyk, CS-315: Honors Algorithms Design/Analysis

### **Cognitive Behavioral Therapy on Co-Occurring Substance Use & Depressive Disorders**

Position Statement on Therapeutic Impact Assessment, December 2019

Prepared for Dr. Amanda Fallin-Bennett, HON-152-005: "Addiction is a Chronic Disorder"

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## COMMUNITY ENGAGEMENT

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HOPE Worldwide, Volunteer, Winter 2012 to Present

Lexington Campus Disciples, Student Officer, August 2019 to Present

Oxford-Style Debate Society, Organizing Chair, October 2018 to August 2019

Marvel Village for Families with Special Needs, Founding Member, November 2016 to July 2018