

Omar Khan

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EDUCATION

University of Illinois at Urbana-Champaign

Champaign, IL

Bachelor of Science in Computer Science + Crop Sciences, Minor in Linguistics; GPA: 3.5/4.0

Expected December 2021

Relevant Coursework: Data Structures and Algorithms, Discrete Structures, Computer Architecture, Elements of Syntax, Elements of

Semantics and Pragmatics, Database Systems

Grayslake Central High School

Grayslake, IL

High School Diploma

Aug 2013 - May 2017

SKILLS

- **Languages:** Java, C++, Python, JavaScript, Swift, HTML, CSS, Haskell, SQL, MongoDB, Neo4J
- **Tools/Technologies:** Git, Bash, Docker, GitHub, GitLab, LaTeX, Android Studio, Xcode, MS Office
- **Libraries/Frameworks:** Flask, Matplotlib, Pandas, Jupyter, NLTK
- **Project/Program Management:** Scrum, Agile

EXPERIENCE

Electrophysiology and Language Processing (ELP) Lab

Champaign, IL

Software Engineering Intern, Data Analyst

August 2019 - May 2020

- **Responsibilities:** Design and build data representations and visualizations to better display post-experiment results and trends using Python, NumPy, and Pandas, facilitating more robust experimental procedures
 - * Current project goal: understanding how differences such as memory and language proficiency affect the language interpretation and comprehension in everyday life

University of Illinois at Urbana-Champaign

Urbana, IL

Software Engineering Intern, Research Assistant

June 2019 - Present

- **PrairieLearn:** Designed and implemented a computerized exam on pipelining and cache analysis for CS 233: Computer Architecture through UIUC's open-source exam distribution and testing environment, using Docker, HTML, CSS, JavaScript, and Python
 - * Expanded practice exam and homework question pool by 45%
- **Cache Simulator/Engineering Education Paper:** Publishing a research paper about CS and engineering education, detailing the challenges and results of converting a previously paper-based exam on caching/pipelining to a computerized one, and how these principles can be applied to other STEM fields

University of Illinois at Urbana-Champaign

Champaign, IL

Program Manager, Course Assistant, Course Developer, Infrastructure Lead

August 2018 - Present

- **CS 233: Computer Architecture:** Manage and oversee the course infrastructure (website, deploying new homework questions, plagiarism detection), teach a discussion and lab section of 25-30 students, and hold weekly office hours
- **CS 196-25: Freshman Honors:** Program manager for several groups of 4-7 students that work on a semester-long project of their choice, teaching them skills crucial in industry, such as thorough understanding of control flow, proper coding style, and communication

Illinois Computer Science Sail

Urbana, IL

Director

April 2019 - Present

- **Responsibilities:** Lead a team of 10 staff members to organize a day-long event for 500+ admitted and prospective students, introducing them to the Department of Computer Science at UIUC, and all of the opportunities available to them here as students
 - * Oversee website and app development, marketing strategies, branding design, and external relations with 50+ high schools

ACM Reflections | Projections Conference

Urbana, IL

Content + Diversity x Tech Chair

December 2018 - Present

- **Roles:** Facilitate a team of 15 people who reach out to companies, engineers, and executives nationwide to speak about the impact that computing and technology has made in their respective fields

PROJECTS

- **MedMonitor:** Recently started working on an Apple Watch + iPhone app that's designed to track heart rate when taking prescription medication and alert the user (and eventually emergency authorities) if there is cause for concern
 - Will include graphical displays/charts that allow the user to observe trends in their heart rate
- **Cache Simulator:** A Python-based cache simulator and analyzer that models caches of varying sizes; initially aimed towards students struggling with cache concepts in CS 233: Computer Architecture, expanding the project to support greater cache sizes
 - Working on a visualizer for this, allowing learners to better see how caches function

ADDITIONAL EXPERIENCE & ACHIEVEMENTS

- Participated in **HackIllinois 2018, 2019, PYGHACK 2018, 2019**
 - **HackIllinois 2018-19:** Worked on a music score rendering web application called **Cadenza** with a team of 4 other hackers
- Lead project manager for the **Association of Data Science and Analytics**, facilitating the creation of a data visualization in **Python** of crime rates in various US cities by 5 inexperienced and novice programmers