

# Jackson Bullard

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[github.com/jacksonb-cs](https://github.com/jacksonb-cs)  
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## EDUCATION

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**Bachelor of Science in Computer Science (Honors)**

Expected: May 2023

**Minor:** Mathematics

University of Arkansas, Fayetteville, AR | GPA: 4.0

## SKILLS SUMMARY

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- Languages/Technologies: Python [4/5], Kotlin [3/5], Android Studio [3/5], PyTorch [2.5/5], PySpark [2.5/5], CUDA [2/5], C++ [2/5], Java [2/5], JavaScript [1/5], Solidity [1/5]
- Development experience using multitier architectures (MVVM and MVP)
- Proficiency with GitHub in a collaborative environment (see software projects)

## SOFTWARE PROJECTS

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- *Bloodweb* Pathfinder (Android, Kotlin, MVVM, LiveData + DataBinding, Firestore) Fall 2022
  - Generates complex web configurations by sending local data to Firestore database
  - Displays optimal player path in the presence of an adversary
- Software workflow for Turing machine simulation using DNA (Python) Summer, Fall 2022
  - Generate a set of “polyominoes” to simulate DNA computations
  - Convert assembly of polyominoes to strand-level descriptions for physical simulation
- Machine learning for classifying ground vehicles from arial images (PyTorch) Fall 2021
  - Trained on a mixture of real and synthetic data
- Antagonistic Apple AirTag Detection (Android app, Kotlin) Fall 2021
- Privacy-Preserving Machine Learning based on Blockchain Summer 2021
  - Developed smart contracts (Solidity) utilized by PyTorch machine learning models, which took advantage of a variety of privacy-preserving techniques including homomorphic encryption, differential privacy, and federated learning.
- 5-Member Project - Browser based P.O.S. system including customer database Spring 2021

## WORK/RESEARCH EXPERIENCE

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**Research Experience for Undergraduates: Algorithmic Self-Assembly** May 2022 – Aug 2022

Contributed to a rapidly growing software ecosystem for designing, simulating, and analyzing algorithmically self-assembling systems (see software projects, self-assembly.net).

**Research Assistant, University of Arkansas**

Jun 2021 – May 2022

Worked on teams researching various data and privacy driven topics including reinforcement learning, machine learning on homomorphically encrypted data, machine learning using blockchain, and more.

**Tutor, Computer Organization & Design, OSAS, University of Arkansas** Feb 2021 – May 2021

Tailored weekly tutor experience for athletes studying computer science.

**Clerk, Porter’s Pawn & Bargain Center, Mountain Home, AR**

Jun 2016 – Aug 2020

School in Session: 20 hours/week | School out of Session: 40 hours/week  
Provided customer service regarding secured loans and merchandise.

## HONORS / AWARDS

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**University of Arkansas Chancellor’s & Dean’s List**

Fall 2019 – Present

**Engineering Career Awareness Program (ECAP)**

Fall 2019 – Present

A nationally recognized competitive program designed to promote the success of underrepresented engineering students.

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## LEADERSHIP EXPERIENCE

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### American Indian Science and Engineering Society (AISES)

- Secretary Spring 2022 – Present
  - Serve as a liaison between members and officers.
- Co-President Spring 2021 – Spring 2022
  - Organized events and met with members about AISES opportunities.
  - Led trip to AISES national conference.

## REFERENCES

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### Dr. Matthew Patitz

Associate Professor, Department of Computer Science & Computer Engineering  
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