

Abdul-Karim K. Rai

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EDUCATION

UNIVERSITY OF PENNSYLVANIA

M.S.E. in Computer Graphics and Game Technology

Relevant Coursework: Natural Language Processing, Cryptography, Engineering Entrepreneurship

Philadelphia, PA

Aug 2022 - May 2024

THE PENNSYLVANIA STATE UNIVERSITY

B.S. in Computer Science

GPA: 3.830/4.000; Honors: Cum Laude

Relevant Coursework: Systems Programming, Machine Learning & AI, Database Management

State College, PA

Aug 2019 - May 2022

EXPERIENCE

FRANKLIN DAO

Blockchain Developer, Development Committee

- [FranklinDAO](#) is a decentralized autonomous organization (DAO) founded by University of Pennsylvania students
- Building MEV arbitrage bot on FranklinDAO's [Community Ethereum Node](#) w/ *Solidity* and *Typescript*

Philadelphia, PA

Sep 2023 – Present

PENN BIOTECH 3D FABRICATION LAB

3D Printing Lab Intern

- Providing a robust 3D printing service (SLA, FDM, MicroFab) for researchers at Penn's Medical, Veterinary, Dental schools

Philadelphia, PA

Jun 2023 – Present

APPIAN CORPORATION

Software Engineer Intern

- Worked on an agile team of 10 that developed resilient services in *Java*, using *Apache Kafka* and *Zookeeper*
- Repurposed Grafana dashboards to display Prometheus times series' for new *Kubernetes* sites
- Won Intern Hackathon: built-in image search for UI Builder + *OpenCV* native image effect API (*Django*)

McLean, VA

Jun 2021 – Aug 2021

LOCKHEED MARTIN / NITTANYAI

Research Intern

- Worked on a team of 6 to research and deploy drone rescue simulation environments in *AirSim*
- Developed an *OpenCV Python* application allowing simulated drones to parse LiDAR point cloud data

State College, PA

Aug 2020 – Jan 2021

ABC FITNESS

Software Engineer Intern

- Used *NLTK* sentiment classifier to handle gym member freeze requests during COVID-19 Pandemic
- Developed a Python API (*Django*) to allow integration of ML model into automated pipeline

Dallas, TX

Jun 2020 – Aug 2020

PROJECTS + VENTURES

SENTGEN: Grammar-Based Sentence Generator | aykae.com/compling

- Procedural sentence generator written in *Python*, hosted on *AWS Lambda*; based on Prof. Hayes' [phrase structure rules](#)

Aug 2023

STARBOX: Decorative Animated LED Signs | aykae.com/starbox

- Decorative desk accessory that displays procedurally generated star patterns using an LED matrix and *MicroPython*

Nov 2022 - Feb 2023

EASYA: Spaced-Recall iOS Study App | aykae.com/easya

- Published to App Store (7.5K installs) under our ed-tech company Tryber Inc.
- Designed and developed the app with *Swift*: UIKit, Alamofire, iOSMath
- Developed a REST API with *Django*, deployed to *AWS EC2*, *S3 buckets* for media storage

Aug 2020 - Present

SKILLS + INVOLVEMENT

Technical Skills: Python, Java, Solidity, Swift, Django, C++, Git, AWS, Fusion 360, CircuitPython

Orgs: Developer for [FranklinDAO](#); Contributing Writer for [Fenjan Magazine](#); Social Media Editor for [Onward State](#)

Languages: Native in English; Conversational in Arabic, French; Beginner in Mandarin