

RISHI MASAND

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EDUCATION

University of Illinois at Urbana-Champaign

Masters in Computer Science, B.S. in Computer Science, Minor in Business

May 2021

Relevant Coursework: Applied Machine Learning, Distributed Systems, Artificial Intelligence, Computer Security, Autonomous Vehicles, Learning-Based Robotics, NLP with Deep Learning

EXPERIENCE

Anduril Industries

Software Engineer

February 2021 - Present

Irvine, CA

Uptake

Software Engineering Intern

May - August 2020

Chicago, IL

- Worked on AI/ML team's data science engine to engineer natural language processing workflows.
- Developed Label Creation Workflow to assign categories to unlabeled work order records.
 - Designed and implemented algorithm to vectorize and cluster text records for label generation.
 - Leveraged scikit-learn, pandas, dask, scipy, numpy, and plotly in workflow implementation.

Uber Technologies Inc.

Software Engineering Intern

May - August 2019

San Francisco, CA

- Implemented machine learning model and training pipeline to predict driver earnings for a driving session.
 - Leveraged Michelangelo to select and train model, tune model hyperparameters, and analyze dataset features.
 - Enabled scheduled automation for HIVE table querying, Spark dataset aggregation, and model training.
 - Deployed Random Forest model available for real-time prediction querying.
- Designed and implemented caching layer for driver earnings opportunity data platform.
 - Developed custom caching logic in Go and leveraged Redis as a high speed key-value data store.
 - Implemented extendable, persistent configuration for upstream data providers to specify caching options.
 - Configured alerting and set up monitoring dashboard to track cache metrics.
 - Achieved cache hit rate of >95% and decreased presentation service data querying latency by 75%.

State Farm

Software Engineering Intern

January - May 2019

Champaign, IL

- Developed journey mapping web application in AngularJS for agents to track timelines of customer processes.
- Designed and implemented REST API in Go and configured PostgreSQL database for application backend.

Caterpillar Inc.

Cyber Security Intern

May - August 2018

East Peoria, IL

- Participated in cloud-based threat modeling and penetration testing to evaluate robustness of software architectures.
- Specified set of technical controls and security suggestions for embedded Linux hardening.

Capital One

Software Engineering Intern

January - May 2018

Champaign, IL

- Automated malware execution response data collection for Windows system with Python, Cuckoo sandbox, and syslog.
- Generated labeled dataset of system response data for machine learning driven attack prevention.

UBS

Software Engineering Intern

July - August 2017

Weehawken, NJ

- Developed machine learning models to classify fraudulent credit card transactions using Python and R.
- Used k -NN classifier developed from scratch, Tensorflow neural network classifier, and scikit-learn decision tree classifier.

TECHNICAL SKILLS

Proficient In

C++, Golang, Python, Swift, JavaScript (Node.js, AngularJS, React), Java, HTML, CSS

Have Experience With

Kotlin, C, SQL, Objective-C, Assembly (MPASM, MIPS, x86), PowerShell, Ruby

Technologies

PyTorch, Tensorflow, Docker, Kubernetes, gRPC, Protobuf, Spark, HIVE, AWS, MongoDB, Unity, Raspberry Pi, Arduino, IDA Pro

RESEARCH

UIUC FORWARD Lab

December 2019 - May 2021

- Performed NLP (Natural Language Processing) and data mining research with Professor Kevin Chang.
- Measured quality of phrases based on traditional and custom quality metrics while leveraging NLTK and stanford-core-nlp.
- Extracted high-quality domain-specific phrases from text corpora using word embeddings (Word2Vec).

UIUC SRTI Lab

February 2020 - May 2021

- Implemented CNN to classify vehicles from a custom-generated dataset of images, using PyTorch.

Autonomous Driving (GEM Illinois Lab & CS 598 MAV)

January 2020 - December 2020

- Deployed and tested brake-on-pedestrian-detection implementation on AutonomouStuff Polaris GEM vehicle.
- Performed pedestrian trajectory estimation using YOLOv3, SORT, scikit-learn, and OpenPose.
- Leveraged ROS and Gazebo to validate motion-planning and perception algorithms.

NOTABLE PROJECTS

UIUC Bus

- Developed native iOS, watchOS, and Android applications to track bus departures and timings for the UIUC campus.
- Shipped apps to App Store and Google Play Store.
- Received >20,000 total downloads.
- Relied on daily by thousands of UIUC students to navigate campus and surrounding area via the CUMTD bus service.

billboard-top-100

- Developed Node.js API (NPM package) to retrieve the top songs, albums, and artists from Billboard's music charts.
- Leveraged TravisCI to implement continuous integration pipeline to test functionality, check code style, calculate test code coverage, and publish package to NPM registry.
- Downloaded over 25,000 times and depended upon by at least 80 public GitHub repositories.
- Collaborate with open source developers to identify and resolve issues to maintain package functionality.

carKeyz

- Designed and implemented custom wireless locking/unlocking and remote start circuit for 1997 Honda CR-V.
- Developed iOS application to interface with in-car circuit over Bluetooth.

More projects at: <https://github.com/darthbatman>

NOTABLE AWARDS

1st Place

Pulse Hardware Hackathon

February 2020

Urbana, IL

- Project: PalmReader - a wearable device that converts detected text to tactile Braille.

Grand Prize

PYGHack

September 2017

Champaign, IL

- Project: SpreadBread - an app to connect local food banks to restaurants and grocery stores with extra food.

1st Place

HackRU

April 2017

Piscataway, NJ

- Project: carKeyz - a smartphone controlled lock/unlock system for my 1997 Honda CR-V.

More awards at: <https://devpost.com/DarthAnakin>

LEADERSHIP

UIUC CS 411 (Database Systems)

Teaching Assistant

January 2021 - May 2021

Urbana, IL

- Lead semester-long course project development, checkpoints, grading, and office hours.
- Developed Python scripts to aggregate and sanitize *EducationToday* academic dataset to be used for future course content.

UIUC CS 461 (Computer Security)

Course Staff

January 2020 - May 2021

Urbana, IL

- Educational Topics: Application Security, Web Security, Cryptography, Network Security, and Forensics
- Held office hours and developed and graded exam questions.

HackIllinois

Systems - iOS Lead

August 2018 - February 2019

Urbana, IL

- Lead team of student engineers developing iOS app for HackIllinois event attendees.

UIUC CS 126 (Software Design Studio)

Course Staff

January 2018 - December 2018

Urbana, IL

- Educational Topics: Programming Style, Documentation, Testing, Debugging, Modular Design, and Design Patterns
- Lead office hours for assistance with Java and C++. + Evaluated, critiqued, and graded student SW application impls.
- Moderated student code review sessions for discussion of student software application implementations.

Illini Motorsports (Formula SAE)

Engineering Project Lead

August 2017 - May 2018

Urbana, IL

- Developed system in C to auto-upshift gears of vehicle to decrease shift times in competition acceleration event.
- Interacted with CAN Bus to analyze RPM, wheel speed, and other parameters to determine time to shift.