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   February 2021 - Present
Software Engineer   *Irvine, CA*

Uptake   May - August 2020
Software Engineering Intern   *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.   May - August 2019
Software Engineering Intern   *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   January - May 2019
Software Engineering Intern   *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.   May - August 2018
Cyber Security Intern   *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   January - May 2018
Software Engineering Intern   *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   July - August 2017
Software Engineering Intern   *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 WORK

UIUC SRTI Lab   February 2020 - May 2021
· Implemented CNN to classify vehicles from a custom-generated dataset of images, using PyTorch.

UIUC FORWARD Lab   December 2019 - December 2020
· 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).

Autonomous Driving (ECE 498 SMA & 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   February 2020
Pulse Hardware Hackathon   *Urbana, IL*
· Project: PalmReader - a wearable device that converts detected text to tactile Braille.

Grand Prize   September 2017
PYGHack   *Champaign, IL*
· Project: SpreadBread - an app to connect local food banks to restaurants and grocery stores with extra food.

1st Place   April 2017
HackRU   *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)   January 2021 - May 2021
Teaching Assistant   *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)   January 2020 - May 2021
Course Staff   *Urbana, IL*
· Educational Topics: Application Security, Web Security, Cryptography, Network Security, and Forensics
· Held office hours and developed and graded exam questions.

HackIllinois   August 2018 - February 2019
Systems - iOS Lead   *Urbana, IL*
· Lead team of student engineers developing iOS app for HackIllinois event attendees.

UIUC CS 126 (Software Design Studio)   January 2018 - December 2018
Course Staff   *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)   August 2017 - May 2018
Engineering Project Lead   *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.