

KARTHICK SHANKAR

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Education

CARNEGIE MELLON UNIVERSITY | Pittsburgh, PA
Master of Science in Computer Science

GPA: 4.0/4.33
Expected December 2021

PURDUE UNIVERSITY | West Lafayette, IN
Bachelor of Science in Computer Engineering

GPA: 4.0/4.0
Graduated May 2020 (Highest Distinction)

Relevant Experience

HULU

Santa Monica, CA

Software Developer Intern (Web Front-End Team)

June 2020 – August 2020

- Designed and developed a feature using React to allow ad-supported users to create and join Hulu's co-viewing experience on the web.
- Devised a player progress-update logic for Firestore updates to fix synchronization issues between users in a co-viewing session.
- Integrated geolocation data with Hulu's content recommendation service to provide popular and trending content in an area to users.
- Collaborated heavily with Product Managers to scope out the experience for a co-viewing session with a variety of user subscriptions.

Software Developer Intern (Roku Front-End Team)

May 2019 – August 2019

- Built end-to-end a screensaver showcasing Hulu Originals on the Roku platform and collected data to measure customer engagement.
- Drove significant increase in content viewership through over 2.7 million weekly users who watched the screensaver.
- Ran an A/B test with a prompt on the sign-up flow with incoming Hulu customers to encourage the use of mobile devices.
- Worked on an open source Brightscript compiler and interpreter to enable unit testing of Brightscript components without a Roku device.

YOURMECHANIC

Mountain View, CA

Software Engineering Intern (Full-Stack)

May 2018 – August 2018

- Architected and built a chatbot for the Amazon Alexa, Google Home and Facebook Messenger to book diagnostic car repair services.
- Prepared a back-end server with Ruby on Rails to serve as a webhook for Dialogflow, a Natural Language Processing service by Google.
- Designed a front-end payment checkout page using ReactJS and Stripe Elements to provide a safe and secure payment process.

PURDUE UNIVERSITY

West Lafayette, IN

Undergraduate Researcher

September 2017 - Present

- Published a paper benchmarking commercial (AWS/Azure/GCP) and open-source cloud and edge platforms for object and anomaly detection.
- Working on a project that optimizes data passing methods for chained serverless (function-as-a-service) applications on the cloud (AWS).

Student Orientation Committee (Program Manager)

September 2018 – September 2019

- Orchestrated Purdue's orientation program for over 8000 new incoming students by leading the recruitment and tech organization.
- Managed and led a team of over 650 cross-cultural staff and conducted trainings on communication, leadership, and teamwork.

Undergraduate Teaching Assistant

January 2017 – May 2020

- Mentored students on the principles of computer security and computer networks and taught popular algorithms like AES in Python.

Individual Projects and Organizations

PURDUE LUNABOTICS

West Lafayette, IN

Vice President

September 2017 – August 2019

- Leading an organization that designs and fabricates an autonomous robot to mine regolith at the NASA Robotic Mining Competition.
- Set up the team webpage and a member database/check-in system using the MongoDB and NodeJS to track attendance of members.
- Overhauled and developed a path-finding algorithm by using LIDAR data to make the rover move autonomously and avoid boulders.

HANGMAN SOLVER | Automatic Hangman Solver

September 2018 – January 2019

- Compiled a database of all English words from Wikipedia and parsed this dataset to automatically guess optimal characters in Hangman.
- Used TF-IDF to get n-gram frequency and using already revealed or rejected letters to generate a list of optimal guesses.

BELLA, THE WEBPAGE ASSISTANT | HackIllinois Hackathon

February 2018 – April 2018

- Conceptualized an add-on for virtual assistants that can build complete websites from the ground up by speaking to it naturally.
- Executed this idea in Python using the Microsoft Bing Speech Recognition API and the LUIS machine learning framework to get 'intents'.

IEEE

West Lafayette, IN

Software Team Lead

September 2017 – May 2018

- Developed image processing algorithms using frameworks like R-FCN and PVA-Net to run on non-GPU systems like the Raspberry Pi.
- Implemented object detection algorithms for an unmanned aerial vehicle to detect shapes, colors and patterns on the floor.

MYONNAISE | MadHacks Hackathon (Hacker's Choice Award, Human Centered Design Award)

October 2017

- Built a motion-sensitive JS web game to help people going through rehabilitation using the MYO armband to sense muscle-movements.
- Composed a minimalistic front-end and a comprehensive backend using Node.js in a game where everything is gesture controlled.

Skills and Coursework

Proficient in Python, C, AWS Services, Typescript, jQuery, Git; **experience with** ReactJS, NodeJS, Donki, Docker, Ruby on Rails, BrightScript, C++, MATLAB, SQL, MongoDB, Google Assistant. **Courses on** Data Structures, Software Engineering, Systems, Machine Learning, Networks, Security.