

# Aneesh Saripalli

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## Education

**Honors B.S. in Computer Science**, The University of Texas at Dallas

Expected Graduation **December 2020**, **GPA: 3.95/4.0** - Dean's List Fall 2017, Spring 2018, Spring 2019

## Professional Experience

**Toyota**, Software Developer August '19 – Present

- Working in a multidisciplinary team to design a blockchain solution for Toyota's supply chain tracking system
- Built a Typescript Node.js server with Express to expose authorized API hooks for the front-end
- Utilized Json Web Tokens for user login sessions and API authentication to secure endpoints
- Collaborated with the front-end team to set up API GET and POST endpoints for workflow management
- Stored data in CosmoDB to facilitate quick schema changes and database redesigns
- Leveraged TypeScript strong typing by integrating inversify.js to streamline dependency injection
- Set up the Mocha testing framework with mocking to unit test backend express routes and data processing

**Amazon, AWS Organizations**, Software Development Engineer Intern May – August '19

- Wrote a service design document and tracked project progress during biweekly team sprint planning
- Developed a service for AWS Organizations that pulls from internal data services and allows for data querying
- Designed an SQS pub/sub notification poll daemon to process and update the ElasticSearch document store
- Leveraged ElasticSearch for high scalability and partial and full text matching against document fields
- Integrated JUnit and Mockito for class-comprehensive unit testing for expected behavior and input resilience
- Deployed the service to the beta stack and presented the service to my organization

**Intel Corporation**, Undergraduate Technical Intern June '18 – May '19

- Designed an interactive Java GUI to track players and visualize game movement to analyze patterns in CSV data
- Developed a Python framework to optimize pixel quality in stadium CAD models using Maya's Python API
- Realized 7x speedups in the optimization framework by implementing a simple data caching mechanism
- Wrote a 4D linear algebra library to simulate view model transforms and camera projections
- Integrated Google Test to manage a unit test suite focused on critical functionality
- Reduced optimization runtimes by 400x after migrating framework to C++11 (191 to .387 seconds)

**Valencian Digital**, Backend Developer May – October '18

- Designed the Node.js architecture, NoSQL Firestore database structure, and API communication schema
- Wrote listeners to automate business logic like rewards handling, user performance, and database CRUD

## Research Experience

**Texas Analog Center of Excellence**, ML Research Intern January - May '19

- Developed a camera data loss by creating a Python script to alert on USB camera disconnection
- Reduced runtimes by 6 hours by altering the C++ image processing routine, allowing parallelization
- Used OpenCV and AprilTag (QR code-like) investigate the relationship between head-pose and driver gaze
- Unified 8 Python and C++ processes into in a single multithreaded data pipeline, increasing usability

## Languages & Tools

- Java, C++, Python, React, JavaScript, TypeScript, Node.js, Flutter, React Native, Git, ElasticSearch, Firestore, DynamoDB, CosmoDB

## Software Projects

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### American Sign Language to English Translation, CV and ML Developer January – April '18

- Worked with a team of 5 to develop a full-stack app that extracts and translates American Sign Language symbols to English alphabet from a webcam using Python with OpenCV and Keras
- Explored and evaluated different features extraction methods including real-time contour segmentation and foreground/background recognition using OpenCV
- Designed the final project architecture and data flow between the convolutional neural networks and the Django/Flask front-end webpage

### Engineering Projects in Community Service, Mobile & Backend Developer January – October '18

- Designed and implemented the first draft of a cross-platform mobile application to reduce wait times and streamline the appointment registration process for a 501(c)(3) using React-Native, MySQL, and PHP
- Wrote a PHP/MySQL backend server to allow users to sign up for appointments and preventing double-booking

## Activities & Clubs

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- Dallas Blockchain Club Vice President: Organizing a mentorship program directed towards teaching the ideas required to manage and create a tech-product based startup. Hosting weekly technical interview preparation classes. Promoted technical club events including our workshops and hackathons.
- ACM Labs Director: Built a website using React, Node, & Typescript on AWS DynamoDB and S3 to help students get their resume to recruiters. Currently hosting resumes for over 50 students.
- HackUTD Industry Coordinator: Actively communicated with industry contacts to raise \$5,000 for HackUTD Spring '19. Coordinated food distribution and judging for over 600 hackers.
- AI Society Technology Coordinator: Presented workshop on using SciKit Learn for logistic regression, decision trees, and KNNs, available on GitHub.

## Honors

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- Erik Jonsson Engineering Scholarship: Awarded twice after a holistic review including academic merit
- Mustang Technology Scholarship: Award due to academic merit
- Phi Kappa Phi Honors Society: Maintained a GPA in the top 7.5 percentile
- Computing Scholars Honors Society: Selective honors that only accepts 30 CS students in each year

## Awards

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- UIL Regionals Qualifiers: Placed in the top 15 in the region in Computer Science, Mental Math, and Math after placing 2<sup>nd</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup>, respectively, in districts
- 1<sup>st</sup> place at UTD Hacks for Humanity: Designed a "Yelp for accessibility" app using React Native that allows people to rate locations based their accommodation to those with disabilities. Uses Google Maps API to display the map and NoSQL Google Firebase to store the review data.
- 2<sup>nd</sup> place at T-Mobile Hacktober: Developed a novel application that summarizes conversations between service agents and customers using Google NLP and IBM Bluemix. Prevents the need for the customer to repeat themselves between representatives by storing and retrieving relevant information from previous interactions.
- 3<sup>rd</sup> place at Johns Hopkins' HopHacks: Built a social good app using React Native that allows communities to help themselves after natural disasters by allowing those less affected to offer available goods and donations, while allowing those more affected by the disaster to easily search for donations via keywords.