

# Stergios Hetelekides

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## Work Experience

### TESLA INC. (2018 – PRESENT)

#### STAFF SOFTWARE ENGINEER (3/23 - PRESENT)

#### SENIOR SOFTWARE ENGINEER (11/19 – 3/23)

#### SOFTWARE ENGINEER (9/18 – 11/19)

#### SOFTWARE ENGINEER INTERN (1/18 – 8/18)

- Designed and implemented the factory task scheduler in Python, automating vehicle manufacturing lines and integrating with car components via Unified Diagnostic Services (UDS) and Controller Area Network (CAN) protocols.
- Developed in-car UI for factory associates using JavaScript and Python, streamlining the manufacturing process.
- Improved Sentry Mode by implementing a system for automatic deletion of irrelevant data, enhancing threat detection and improving data organization for customers.
- Designed and implemented Live Camera streaming feature (streaming vehicle cameras to mobile app) using WebRTC, GStreamer, and React Native, enhancing user experience and security monitoring capabilities.
- Created the insurance data collector in C++ for Tesla Safety Score (used in calculating Tesla insurance premiums), leveraging telematics and sensor data for risk assessment.
- Brought Auto Cancel turn signals to Tesla Model 3 and Model Y, integrating with Autopilot for lane detection, UI for user preferences, and Electronic Control Units (ECUs) for physical light control.
- Improved Summon and Live Camera compatibility by resolving Maximum Transmission Unit (MTU) issues in certain networks and creating a dual network stack TURN server for IPv4/IPv6 compatibility.
- Implemented "Synchronized Light Show" for multi-car synchronization using Network Time Protocol (NTP) and optimizing audio pipelines.
- Developed onboard service tool using React and Python for UI and C for core security implementations, enabling efficient diagnostics and issue resolution via UDS routines and CAN.
- Developed Megaphone feature using GStreamer and car audio hardware, allowing users to speak out of the external speaker.
- Improved Dashcam by adding a "Save on Honk" feature, enabling automatic video footage saving upon honking.
- Implemented logging system using Golang in server and vehicle, streamlining debugging and integrating with Splunk for log analysis.
- Implemented sorting algorithm for suggesting music and podcasts to drivers based on preferences and listening habits.
- Designed energy consumption monitoring system using CAN signals, computing aggregated metrics for analysis of vehicle efficiency and reporting the metrics to a server.
- Allowed users to silence car alarm via UI by implementing UI switch and Electronic Control Unit (ECU) code.

### DATTO INC.

#### SOFTWARE ENGINEER INTERN (8/17 – 12/17)

Helped build an API to manage Datto's cloud, streamlining data restoration for customers.

### INTUIT INC.

#### SOFTWARE ENGINEER INTERN (1/17 – 7/17)

Maintained and improved the TurboTax iOS application, including implementing the critical "hamburger" menu for navigation.

## Projects

### SLICES

iOS tweak which allows users to create multiple profiles for their applications. Successfully sold on Cydia marketplace with over 20,000 sales.

### TIMEPASSCODE PRO

iOS tweak which makes the device's passcode the current time. Successfully sold on Cydia marketplace with over 2,000 sales.

### VINE DOWNLOADER

iOS tweak which allows users to save videos from the Vine app into their camera roll. Successfully sold on Cydia marketplace with over 3,000 sales.

### INSTACHOOSER

iOS tweak which allows Instagram users to upload photos from their camera roll (before it was natively supported). Successfully sold on Cydia marketplace with over 1,000 sales.

## **VELOCITY**

Cross-platform application which supports viewing and modifying nearly every Xbox 360 file format.

## **NEURAL NETWORK PLAYGROUND**

Built a neural network from scratch in Swift. Trained on MNIST dataset and achieved 91% accuracy.

## **GUESS MY DRAWING**

Custom built CNN model which classifies user drawings into 1 of 345 categories. CNN runs natively on iOS devices, and works consistently well.

## **IOS VISION APP**

iPhone application which uses Resnet-50 and Inceptionv3 networks to classify images in real-time from a device's camera.

## **CIFAR CUSTOM CNN**

Custom built CNN model which classifies images from the CIFAR-10 dataset.

More available at <https://github.com/hetelek> .

## **Education**

### **ROCHESTER INSTITUTE OF TECHNOLOGY**

Bachelor of Science in Software Engineering (2015 – 2018, Incomplete)