# Yaacov Tarko

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## Education
**University of California, Los Angeles**, Los Angeles, CA
- B.S. Computer Science (GPA: 3.849/4.000)                              Expected Dec 2018

**Relevant Coursework:**
- **Software:** Software Engineering, Operating Systems, Computer Networks, Compiler Construction, Artificial Intelligence, Machine Learning, Bayesian Networks (graduate level), Computer Graphics, Algorithms, Algorithms in Bioinformatics, Databases.
  **Hardware:**  Computer Networks- Physical Layer, Logic Design of Digital Systems, Digital Design Lab, Computer Systems Architecture, Computer Organization.

## Work Experience
**Google,** *Software Engineer*, Google Product Infrastructure                              Upcoming

**Facebook,** *Software Engineering Intern*, Location-Aware Distribution            06/2018 – 09/2018
- Implemented C++ memory optimizations in a peer-to-peer system, reducing memory usage by 5%.
- Added content inlining to a backend data distribution service, improving latency and resource usage.
- Improved crash recovery by adding functionality to resume interrupted downloads. Cached downloads on disk, resumed downloads based on cache state, and prevented overuse of disk space by adding garbage collection.
- Implemented modifications to data distribution protocol, including changes to Thrift service, RocksDB schema, and associated C++ code, to allow transmission of metadata in the same message as content.
- Wrote comprehensive unit tests and routinely tested performance on several thousand hosts.

**Tyvak NanoSatellite Systems,** *Software Engineering Intern*, Ground Software        06/2017 – 09/2017
- Developed features for ground control software, including front-end and back-end web systems and MacOS applications, to improve user experience and prevent operator error.
- Implemented account-based authorization in a Node.js web application to control access to satellite telemetry and commands.
- Helped build a data access layer in C++ to improve database query performance, and built a proxy in C++ and JavaScript to incorporate it into a Node.js server.

**Dovel & Luner LLP,** *Legal Intern*, New Matters                              06/2014 - 09/2014
- Analyzed patents, identified potentially infringing products, and communicated my findings to the firm's new matters department to assist with case selection.

## Research Experience
**UCLA Automated Reasoning Group,** *Undergraduate Researcher*                 01/2018 – Present
- Conducted novel research on applications of Bayesian Networks to traffic route prediction.
- Designed an algorithm to efficiently count the number of traffic routes in a state space defined by a hierarchical route distribution, and implemented the algorithm in Python.

## Other Experience
**Upsilon Pi Epsilon CS Honor Society**                              10/2016 – Present
- Tutored computer science students at UCLA in introductory and advanced classes.
- Designed practice exams in C++ for UCLA's intro CS course.

**Unmanned Aerial Systems at UCLA**                              10/2016 – 06/2017
- Developed ground control software in Python to process and retransmit aircraft telemetry.
- Configured the NuttX real-time OS and Pixhawk flight control system to transmit required telemetry.

## Skills
**Languages:** C++, JavaScript, Python, C, SQL, Objective-C, BASH, Lisp.
**Tools & Frameworks:** Node.js, Express, Git, Mercurial, Linux, Google Test, RocksDB, Apache Thrift.
**Distributed Systems:** Experience optimizing and adding features to globally distributed systems.
**Agile Development:** Experience architecting and building software solutions using agile development principles.