

## EDUCATION

### UC SAN DIEGO

B.S. IN COMPUTER SCIENCE

October 2014 - June 2018 | La Jolla, CA

Jacobs School of Engineering

Magna Cum Laude

Cum. GPA: 3.85 / 4.0

Major GPA: 4.0 / 4.0

## LINKS

<https://github.com/andreimaximov>

<https://linkedin.com/in/andreimaximov>

## COURSEWORK

Advanced Graphics

Algorithms

Compilers

Computer Architecture

Deep Learning

Networked Services

Operating Systems

Parallel Computing

## SKILLS

### PROGRAMMING

Proficient

C++ • Rust • Python • Java

Familiar

OCaml • Haskell • Scala • Lua •

JavaScript • PHP

## EXPERIENCE

### JUMP TRADING | SOFTWARE ENGINEER

September 2019 - Present | Core Development | Chicago, IL

- Working in C++ on HFT simulation for Jump's trading platform.

### FACEBOOK | SOFTWARE ENGINEER

July 2018 - September 2019 | Memcache and Cache RPC | Menlo Park, CA

- Worked on a C++ based distributed system for high throughput, low latency counters and other approximate data-structures/algorithms powering ranking, throttling, and integrity across Facebook, WhatsApp, and Instagram.

### FACEBOOK | SOFTWARE ENGINEERING INTERN

September 2017 - December 2017 | Search Ranking Infra | Menlo Park, CA

- Developed a C++ stream processing platform for efficiently approximating top-K elements in a sliding window of millions of unique candidates.
- Released internally as a generic, easy to use, and fully-managed service.
- Deployed in production to provide realtime updates for use cases such as top clicked search results.

### QUORA | SOFTWARE ENGINEERING INTERN

June 2017 - September 2017 | Infra/Data Platform | Mountain View, CA

- Developed a system with improve reliability and scalability for monitoring realtime and historic infrastructure metrics using Scala, Spark, and Kafka.
- Improved disaster mitigation utilities with MySQL query blacklisting using Python and ZooKeeper.

### GOOGLE | SOFTWARE ENGINEERING INTERN

June 2016 - September 2016 | Chrome Apps | Mountain View, CA

- Developed an ORM abstraction for integrating the Apps Admin SDK as a datastore into App Maker, a GUI based app builder for enterprise customers.
- Wrote a Java + JavaScript based query engine on top of the Admin SDK to allow for filtering and entity relationships with other datastore backends.

### EFOLDER | SOFTWARE DEVELOPER INTERN

June 2014 - May 2016 | Mountain View, CA

- Developed a prototype for a realtime graph-based Lambda Architecture metrics system using Java, Hadoop MapReduce, AWS Lambda, and Kinesis.
- Implemented an automated billing system using PHP and PostgreSQL for processing a majority of revenue.

## PROJECTS

### UTHREAD | C++ FIBER/USER-SPACE THREADING LIBRARY

- Uses cooperative scheduling with fast context switching (30M+ thread context switches/second on a single x86-64 core)
- Provides primitives for synchronizing between fibers via mutexes, condition variables, etc.
- Provides a non-blocking IO API for timers, sockets, etc. via libevent

### PATHTRACER | C++ RENDERING ENGINE

- A physically accurate rendering engine with support for Monte Carlo global illumination, fresnel reflections/refractions, and texture mapping that probabilistically approximates the rendering equation
- Uses Bounding Volume Hierarchies for improved ray-intersection performance and a worker-thread architecture for parallelizing chunk rendering.