

Alexander Lelidis

SOFTWARE ENGINEER · RESEARCHER · GENERAL COMPUTER SCIENTIST

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“There are two major products that come out of Berkeley: LSD and UNIX. We don't believe this to be a coincidence”
Jeremy S. Anderson

Skills

Programming	Python, javascript (ES6), TS, C/C++, Ruby, JAVA, PHP, Assembler (mios, x86), GLSL, Bash
Databases	SQL, MongoDB, couchDB, pouchDB, postgres
Libraries	PyTorch, Tensorflow, React (Native), Django, tornado, flask, angular, Redux, HTML5, CSS3, Node.JS, leaflet, mapbox, ros, bootstrap, jquery, Three.js, loadash, boost, cgal, igl
General	SVG, openGL, WebGL OSM, OSG, mapbox, OSRM, CAD, ESRI AGO, Metabase
Languages	English (Full professional proficiency) , German (native language), Spanish (4 years of high school classes), Bulgarian (basic knowledge)

Work experience

ETH Zurich

RESEARCH ASSISTANT AT CGL/DISNEY

- Development of production-level deep learning code in collaboration with Disney.
- Research of smoke stylization method and develop of a Houdini plugin for neural smoke processing.

Zurich, Switzerland

Fall. 2020 - now

ESRI

SOFTWARE ENGINEER

- Development of urban planning software in the 3D space in the browser using React and the ESRI Js API
- Research, design and implementation of streetview integration in ARCGis Urban resulting in two opensource packages on NPM
- Planning and execution of telemetry gathering using AWS-Redshift and Metabase increasing user feedback

Zurich, Switzerland

Spring. 2019 - Fall 2020

Antavi GmbH

SOFTWARE ENGINEER

- Design and development of command, control and communication systems in React with live updates via pouchdb
- Scalable Backend and API design in Express running on AWS
- Processing and visualization of raw GIS data analysis using Mapbox and OSRM

Zurich, Switzerland

Spring. 2016 - Winter 2018

Undergraduate Research, Dept. of Information Technology and Electrical Engineering

RESEARCH ASSISTANT AT IFE

- Getting insights of big mobile crowd GPS data through the implementation of trajectory analysis in Python
- Visualization of complex relations by creating web-based software for crowd analysis in Js
- Research and development of new analysis methods using GPS data to provide crowd flow direction estimates

Zurich, Switzerland

Fall 2014 - Spring 2016

WeltWeitBau GmbH

SOFTWARE ENGINEER

- Development of software civil engineering tools in Java and C++
- Reducing software quality assurance time by implementing continues integration tests with Selenium
- Teaching training courses for the utilisation of the company's products to new clients

Berlin, Germany

Fall 2012 - Spring 2016

Education

ETH Zurich

MASTER OF COMPUTER SCIENCE (1.3)

- Joint Thesis with the University of Cambridge
- Focus: Machine Learning and Security

Zurich

Sep. 2017 - Sep. 2020

Technical University Berlin

BACHELOR OF COMPUTER SCIENCE (1.9)

- Exchange program at ETH Zurich
- Focus: Computer Graphics and Computer Vision

Berlin

Oct. 2012 - Apr. 2016

Research

Invisible to Machine Perception: Attacking Pose Estimators with Attribution Methods

MASTER THESIS

Zurich, Switzerland

Mai. 2020

Geometry Representations for Big Geometry Data with Unsupervised Feature Learning

BIG DATA AND SMART COMPUTING (BIGCOMP), 2016 INTERNATIONAL CONFERENCE

Hong Kong, China

Jan. 2016

Structure-aware Surface Reconstruction with Sparse Moving Least Squares

BACHELOR THESIS

Zurich, Switzerland

Aug. 2015

Projects

Asteroid field simulation

UNIVERSITY

C++, CGAL, OSG

<https://alexus37.github.io/asteroidField/>

- Realtime N-Body simulation in 3D space with collisions detection and physically correct response computation
- Numerical estimation of gravitational forces using the C++ library CGAL
- Visually pleasing rendering by leveraging OpenSceneGraph

tripTrackr

PRIVATE

Ruby on rails, js, OSG

<https://www.triptrackr.de/>

- Full-stack development of a travel app for Android and IOS, where users can create a personal webpage with their travel trajectory
- Backend development with Ruby on rails and deployment on AWS infrastructure

WebGL interface for the NORI raytracer

PRIVATE

Python, Django, three.js

<http://alexus37.github.io/NoriV2Webinterface/>

- Web-based modelling tool and editor for scenes used as input for the physical-based raytracer Nori
- Including a full ecosystem with user management, rest API and server-side rendering running with Django
- Real-time rendering preview using WebSockets with an angular frontend leveraging three.js

Thermal augmented reality chess

UNIVERSITY

C++, Python, ROS

<http://alexus37.github.io/pdf/report.pdf>

- Connecting a RGB image stream with a thermal image stream to transform every surface to a touch screen
- Using the RGB camera to track augmented reality marker and use OpenGL to render a chess game