

# Charalampos Piotopoulos

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## SUMMARY

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I am a Computer Science student @ the Technical University of Munich.

I am always trying to evolve and learn new things by working hard and seeking new challenges.

I am passionate about Programming, Technology, Science, Cars, Medicine and Space.

## EDUCATION

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### Master of Science in Computer Science

Technical University of Munich • Munich, DE

10/2027

### Bachelor of Science in Computer Science

Technical University of Munich • Munich, DE

Minor in Medicine (Application Subject)

10/2025

### Medicine (not completed)

Universität des Saarlandes • Saarland, DE

Successfully completed courses: Chemistry, Clinical Chemistry, Biology, Clinical Biology, Physics, Anatomy, Biochemistry, Histology, Physiology, Clinical Physiology, Medical Terminology, Psychology, Sociology and Clinical Medicine

02/2021

### Allgemeine Hochschulreife (high school diploma)

Deutsche Schule Athen • Athens, GR

Grade: 1,2

2018

## PROJECTS

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### Bachelor Thesis: Characterizing and facilitating phase-optimized iOCT visualization for ophthalmic procedures

2025 • with Carl Zeiss Meditec AG and LMU

Deep Learning, AI, Python, Agile, Medical Imaging

- Optimizing Intraoperative Optical Coherence Tomography (iOCT) for different phases of ophthalmic surgery. Surgical workflows were analyzed through expert interviews, direct observations, and interactive questionnaires to identify key phases, difficulty levels, and visual indicators. AI-based phase detection methods were explored to design phase-adaptive visualization techniques. Finally a state of the art AI-model for phase detection was developed.

### Neural Network for iOCT Image Segmentation

2024 • with Carl Zeiss Meditec AG

- Segmenting retinal layers in intraoperative Optical Coherence Tomography (iOCT) volumes using a U-Net neural network model

For more projects take a look at my portfolio: <https://charalampos-piotopoulos.com/>

## CERTIFICATIONS

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### CS50

Harvard University • 2023

- Certified in the completion of the CS50 Course by Harvard University. Acquired knowledge in C, Python, Algorithms and Data Structures, SQL, HTML, CSS, Javascript and Flask

## **LOOPx: Lernen objekt-orientierter Programmierung**

edX - TUMx • 2021

- Certified in the basic knowledge of Object Oriented Programming

## **Learn Python 3**

codecademy • 2020

- Certified in the knowledge of the programming language Python 3

## **First Aid**

Deutsches Rotes Kreuz e.V. | German Red Cross • 2020

- Certified in advanced first aid techniques

## **RELEVANT COURSEWORK**

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### **IT Security + Network Security**

Python, Teamwork, IT Security, Web security

- Learned the different levels and aspects of IT Security, including vulnerabilities and how to protect against their exploitation

### **Introduction to Software Engineering**

Teamwork, Agile Software Development, UML, Scrum, Java

- Learned the full process of creating a project as a Software Engineer from planning to designing to implementing and presenting, as well as dealing with changes in the requirements in an agile environment

### **Fundamentals of Algorithms and Data Structures**

Java, Data Structures, Algorithms

- Implemented and learned about different Data Structures and Algorithms

### **Application and Implementation of Database Systems**

SQL, Databases

- Learned the different aspects of Databases and how to implement them and the SQL Language

### **Grundlagenpraktikum: Programmierung - Basic practical course: Programming**

Java, OOP

- Created solutions for small projects, ranging from beginner to advanced, written in Java, including different testing techniques

### **Advanced Systems Programming in C**

C, Operating Systems, Low Level

- Learned about a variety of operating system concepts, techniques for debugging and optimization of low-level code and acquired a good understanding of memory- and resource management

## **SKILLS**

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**Programming:** Java, C, C++, Python, MySQL, OCaml, Javascript/Typescript, React, PyTorch, CSS, HTML, MatLab and more

**General:** Agile Methodologies, Scrum, UML, Git, LaTeX, Computer Architecture, Team work, Problem Solving, Communication, AI

**Languages:** Greek (native), German (expert), English (expert), French (B2), Italian (A2)