

Cyprus University of Technology

Faculty of Engineering and Technology

Department of Electrical Engineering, Computer Engineering and
Informatics

Bachelor's Thesis

**Retrieval Augmented Generation
System for Cyprus University of
Technology Courses**

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Supervisor: Dr. Andreas Diavastos

Limassol, May 2025

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Abstract

This thesis presents the design, implementation, and evaluation of a Retrieval Augmented Generation (RAG) system specifically developed for Cyprus University of Technology Computer Architecture course. The system aims to enhance students' learning experience by providing context-sensitive and accurate information retrieval from course materials. By combining modern language models with a vector database of course content, the system responds to student queries with precise information drawn directly from course materials. Experiments demonstrate significant improvements in answer accuracy and relevance compared to traditional search methods or standalone language models.

Keywords: Retrieval Augmented Generation, Large Language Models, Vector Databases, Information Retrieval, Educational Technology