

# Advanced Python Programming

Binnur Kurt, PhD



binnur.kurt@rc.bau.edu.tr

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## Course Content

> **Module 1:** Object-Oriented Programming in Python

> **Module 2:** Functional Programming in Python

> **Module 3:** Unit Testing in Python using PyTest



> **Module 4:** File Operations in Python



> **Module 5:** Thread Programming



> **Module 6:** Introduction to Web Architectures



WebRTC

HTTP



WebSocket

> **Module 7:** NoSQL Databases and MongoDB



mongoDB



> **Module 8:** Designing and Implementing RESTful Services



Flask

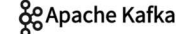


FastAPI

> **Module 9:** Event-Driven Architecture



RabbitMQ



Apache Kafka



GraphQL



gRPC

> **Module 10:** Reactive Programming



> **Module 11:** Performance Tuning and Optimization of Python Applications

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## Grading

> Midterm	1	20%
> Homework	4	20%
> Project	1	20%
> Final	1	40%

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## Background

- > **1995**, B.Sc., ITU Computer Engineering
- > **1997**, M.Sc., ITU Computer Engineering
- > **2007**, Ph.D., ITU Computer Engineering
- > **1995-2003**, RA, *ITU Computer Engineering Dept.*
- > **2004-2008**, Lecturer, ITU Computer Engineering Dept.
- > **2008-2017**, Consultant & Trainer, *Ω Omega Ω*
- > **2018-to date**, Founder & CEO, DEEPCLOUDLABS  
<https://www.deepcloudlabs.com>
- > **2022-to date**, Director of Big Data Training & Research Center
- > **2022-to date**, Assistant Prof., AI Engineering Dept.



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## Areas of Interest

- > Java Desktop and Enterprise Technologies
- > Spring Framework: Spring Data, Spring MVC, Spring Boot
- > MySQL, MySQL Cluster
- > Programming Languages: C++, Java, JavaScript, Python
- > Oracle Fusion Middleware Technologies: SOA, BPM, OSB
- > Big Data and Machine Learning
- > Algorithmic Trading & High-frequency Trading
- > Crypto-Currency & Block-chain
- > Digital Image & Video Analysis and Processing
- > Real-Time Computer Vision Systems

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## Trainings Offered



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## My Certifications



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## Contact

- > **binnur.kurt@rc.bau.edu.tr**
- > <https://binkurt.blogspot.com>
- > <https://www.deepcloudlabs.com>

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