

Onur Karalı

Software Engineer · Eindhoven, Netherlands

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Profile

Senior software engineer with 14+ years across backend services, distributed systems, and algorithm development. Proven record building scalable, high-traffic services in e-commerce, automotive, and defense. Fluent in Java, C++, TypeScript, and Python; comfortable from low-level systems code to product-facing platforms. Founder of a Netherlands-registered one-person company shipping consumer and developer products.

Experience

Booking.com *Amsterdam, Netherlands*

Software Engineer II *Jul 2022 – Present*

- Build backend services in Java and TypeScript exposing REST and GraphQL APIs that serve millions of users daily.
- Design scalable, high-traffic services backed by Redis caching and Kafka event pipelines; tune for low-latency reads and fan-out.
- Improve observability with Grafana dashboards, SLO tracking, and structured logging for on-call and capacity planning.
- Implement offline data-generation pipelines on Hadoop and PySpark feeding production lookup stores.
- *Stack:* Java, Spring Boot, Dropwizard, TypeScript, Redis, Kafka, Hadoop, PySpark, Kubernetes, Docker, Protocol Buffers.

Omelas (omelas.tech) *Netherlands*

Founder · Product & Engineering *Sep 2025 – Present*

Independent one-person company (KVK 98455303), shipping products end-to-end: architecture, implementation, release, support.

- **Caleido** – Social discovery platform for art, cinema, books, and music. iOS, Android, and Web clients with a shared backend.
- **AddrPass** – Open-source address-privacy infrastructure: tokenized, revocable, self-hostable.
- **Brain Memory** – Memory system for AI coding agents, distributed via npm.
- **AppScreen** – App Store and Play Store screenshot generator with a public API and Model Context Protocol integration.
- **RemoteConsoleSSH** – Secure mobile SSH client with biometric authentication and multi-connection support.
- *Stack:* TypeScript, Next.js, Flutter, Node.js, PostgreSQL, GCP, Cloudflare Workers.

TomTom *Eindhoven, Netherlands*

Senior Software Engineer *Nov 2018 – Jul 2022*

- Designed and shipped software components and interfaces integrating the TomTom navigation SDK into automotive platforms (CommonAPI, AIDL).
- Tech lead for a six-engineer team: roadmap, architecture reviews, mentoring, and customer-facing technical communication.
- *Stack:* C++ (11/14/17), Java, Android, CMake, Gradle, Docker.

Amazon *Madrid, Spain*

SDE II *Aug 2017 – Aug 2018*

- Full-stack development of product-curation tools for Amazon Business administrators.
- Planned and optimized project hardware infrastructure and CI capacity.
- *Stack:* React, Java, Spring Boot, AWS (DynamoDB, S3, SQS, SNS, Lambda).

Roketsan *Ankara, Turkey*

Senior R&D Engineer *Apr 2016 – Jun 2017*

- Developed infrared target-detection and tracking algorithms; built test and simulation tooling.
- *Stack:* C, C++.

Nokta (izlesene.com) *Ankara, Turkey*

Senior Software Developer *Jun 2015 – Feb 2016*

- Designed and implemented search and recommendation algorithms for a large-scale video platform; integrated Apache Solr.
- *Stack:* PHP, JavaScript, HTML/CSS, Solr.

TÜBİTAK BİLGEM / İLTAREN *Ankara, Turkey*

Senior Researcher / Researcher *Aug 2008 – Jun 2015*

- Designed image-processing algorithms for target detection and tracking, image enhancement, feature extraction, and multispectral fusion.
- Authored algorithm and system requirements; led a research team of four; delivered algorithms from prototype to fielded system.
- *Stack:* C, C++, C#, OpenCV, MATLAB.

Education

Middle East Technical University (METU) Ankara, Turkey PhD, Informatics — drop-out Sep 2014 – Sep 2017

- Three years of doctoral study; coursework completed in software architecture, object-oriented design, databases, networks, and data mining. Left the program before the dissertation phase.

Middle East Technical University (METU) Ankara, Turkey MSc, Electrical & Electronics Engineering Sep 2008 – Sep 2011

- Focus: signal processing, image processing, computer vision, pattern recognition.
- Thesis: *An algorithm for multiscale license plate detection and rule-based character segmentation.*

Middle East Technical University (METU) Ankara, Turkey BSc, Electrical & Electronics Engineering Sep 2003 – Jun 2008

- Senior project: *A device that creates 3D objects using 2D data sources.*

Skills

Languages	Java, C++, TypeScript, Python, JavaScript, C, C#, R
Backend & APIs	Spring Boot, Dropwizard, Node.js, REST, GraphQL, gRPC, Protocol Buffers
Data & Infra	Redis, Kafka, PostgreSQL, DynamoDB, Hadoop, PySpark, Solr
Cloud & DevOps	AWS, GCP, Cloudflare Workers, Kubernetes, Docker, CI/CD
Frontend & Mobile	React, Next.js, Flutter, Android
Domains	Backend at scale, system design, image processing, computer vision, search & recommenders

Selected Publications

- A. O. Karalı, S. Çakır, T. Aytaç. *Multiscale contrast direction adaptive image fusion technique for MWIR–LWIR image pairs and LWIR multi-focus infrared images.* Applied Optics, 54(13):4172–4179, 2015.
- A. O. Karalı, O. E. Okman, T. Aytaç. *Adaptive image enhancement based on clustering of wavelet coefficients for infrared sea surveillance systems.* Infrared Physics & Technology, 54(5):382–394, 2011.
- A. O. Karalı, O. E. Okman, T. Aytaç. *Adaptive enhancement of sea-surface targets in infrared images based on local frequency cues.* JOSA A, 27(3):509–517, 2010.
- 10+ peer-reviewed papers; full list on Google Scholar.

Awards & Honors

- Ranked 371st in the Turkish university entrance examination among ~1.5M candidates.
- Senior Design Course Achievement Award, Dept. of Electrical & Electronics Engineering, METU, 2008.
- Certificate of Achievement for “good mechanical design and effective use of software engineering tools,” METU, 2008.

Languages

Turkish (native) · English (full professional) · Dutch (limited working)