Danil Krylov

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Education

Southern Federal University Rostov-on-Don, Russia
B.Sc. in Fundamental Informatics and Information Technology; *Sep 2015 − Jun 2019*

Skills

Languages: Scala, JavaScript
Technologies: Lightbend (Akka, Play2), Typelevel (CE2/3, FS2), SBT, Gradle, Docker
Databases: PostgreSQL, MongoDB, MySQL, ClickHouse, Redis, Kafka

Work Experience

ООО Прикладная Техника (ГК МТС) Moscow, Russia (Remote)
Scala Developer *Jul 2023 − Present, Full-time*
- Responsibilities: Data engineering development, CI/CD managment
- Technologies: Spark Streaming, Kafka, AVRO, Gradle, PostgreSQL, ClickHouse, Kafka Connect, Flink
- Domain: Telco traffic processing

Scalac INC. San Francisco, California, United States (Remote)
Scala Developer *Mar 2021 − Jul 2023, Full-time*
- Responsibilities: Reimplementing the client legacy system from scratch, event driven architecture
- Technologies: cats-effect, FS2, cats-mtl, Protobuf, Kafka, MongoDB
- Domain: Fintech fraud detection

ООО КИНОПЛАН Rostov-on-Don, Russia
Scala Developer *Nov 2019 − Mar 2021, Full-time*
- Responsibilities: API design, payment system integration, data engineering
- Technologies: Akka, Play Framework, MongoDB, ClickHouse
- Domain: Entertainment (cinema management)
- Notes: Experience in upgrading scala version that requires refactoring a large codebase

Research Experience

Max Planck Institute for Intelligent Systems Stuttgart, Baden-Württemberg, Germany
Undergraduate Researcher *Jun 2022 − Aug 2022, Internship*
- Worked in the Robotics, Collectives and Learning subgroup at the Physical Intelligence Department with former Ph.D. students Sinan Özgün Demir and Alp Can Karacakol on a project about 3D printing and heat-assisted magnetic programming of soft machines under the supervision of Prof. Dr. Metin Sitti.
- Implemented an Arduino Mega driver for controlling a fluid dispenser, a laser, thermocouples, and a coil set. Updated ROS nodes for parsing G-codes and controlling stage movement and built the ROS-Arduino communication network to simulate a 3D printing and magnetic programming process with Python.
- Designed the project's system and software architecture, algorithm flowchart, and state machine diagram. Implemented and debugged ROS nodes by validating each corresponding hardware component functions correctly.

Nanonetworking Research Group, Boğaziçi University Istanbul, Turkey
Undergraduate Researcher *Oct 2021 − Jun 2022, Part-time*
- Worked on the project "Design and Implementation of Molecular Communication Systems Using Index Modulation" under the supervision of Prof. Dr. Ali Emre Pusane.
- Simulated the Brownian motion of molecules in a SISO MCvD system and predicted simulation parameters such as receiver radius, diffusion coefficient, and transmitter-receiver distance using CNNs with Keras and TensorFlow.
- Ran Monte Carlo simulations of the Gaussian model to encode/decode randomized binary sequences in a SISO MCvD system using BCSK modulation technique and calculated the bit error rate on Z-channel.