Kyösti Alkio

Software Developer

Kyösti is a highly versatile software developer with a deep interest in neuroscience and a strong foundation in computer science. His passion lies particularly in combining these two domains in brain-computer interfaces. Kyösti has a curious mind and is eager to learn new technologies and to expand his knowledge. As an employee, he is known to be responsible and unafraid of tackling new challenges. He excels at quickly picking up new technologies and adapting to new environments, as proven by his experience across a range of projects.

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Skills

Python | C++ | Scala | TypeScript | JavaScript | SQL | Docker | Docker Compose | Docker Swarm | Microservices | Linux

AWS | Azure | Git | CI/CD | GitHub Actions | Electroencephalography (EEG) | Transcranial magnetic stimulation (TMS)

ReactJS | Node.js | Express.js | Django | Robot Operating System 2 (ROS2) | Real-time computing | Agile

Highlighted experience

Consultant   *Q2/2023 – Q3/2023*
NETLIGHT CONSULTING   *Helsinki, Finland*

The client wanted to embrace information-based management. Kyösti joined the team as a data engineer to set up a data warehouse which combined information from several systems. His main responsibility was to model the data in the warehouse and to provide it to Power BI cleaned and tested. In addition, he set up production and staging environments for the project.

Keywords: *Data warehousing, data engineering, business intelligence, SQL, SQL Server, Azure, Power BI, dbt, GitHub Actions*

Software Developer   *Q2/2022 – Q1/2023*
CONNECTTOBRAIN, AALTO UNIVERSITY   *Espoo, Finland*

ConnectToBrain is creating a novel system for stimulating the brain non-invasively based on brain state in real-time. Kyösti joined the project as a software developer to design and implement a real-time data pipeline in C++ and to develop a web-based user interface to control the system. In addition, he designed the production environment for the software components of the system using Docker Compose and Docker Swarm.

Keywords: *Electroencephalography (EEG), Transcranial magnetic stimulation (TMS), Robot Operating System (ROS), C++, Python, Linux, Real-time computing, TypeScript, React, Redux, FPGA, Electronics and Circuits, Docker, Docker Compose, Docker Swarm, Ubuntu, PREEMPT_RT*

Cloud Developer   *Q2/2020 – Q2/2020*
VISMA CONSULTING OY   *Helsinki, Finland*

The client wanted a cloud-based data pipeline and a dashboard for visualizing information about road conditions. By utilizing serverless technologies where applicable and infrastructure-as-code to ease deploying, Kyösti developed a data pipeline, a data warehouse and visualization dashboards. The client was very satisfied with Kyösti's efficiency in creating the pipeline and the project's capability to highlight critical data points in the visualization dashboard.

Keywords: *AWS, AWS Lambda, Apache Kafka, Terraform, JavaScript, AWS Quicksight, AWS RDS, AWS MSK, AWS SQS, AWS VPC, AWS Athena, AWS S3, AWS EC2, AWS Glue, Scala*

Interests

Brain-computer interfaces | Medical technology | Climate change | Reading | Board games

Education

Master of Science   *2020 – 2023*
AALTO UNIVERSITY   *Espoo, Finland*

Major: Computer Science, **Minor**: Neuroscience
Thesis: Real–time closed–loop TMS–EEG pipeline

Bachelor of Science   *2016 – 2020*
AALTO UNIVERSITY   *Espoo, Finland*

Major: Computer Science, **Minor**: Exchange studies in City University of Hong Kong
Thesis: Artificial intelligence technologies in automated vehicles

Project list

Software Developer   *Q3/2021 – Q3/2021*
VISMA CONSULTING OY   *Helsinki, Finland*

A Google Data Studio data connector.

Keywords: *TypeScript, Google Data Studio, Firebase, Connector integration, Firestore, Google Apps Script, Caching*

IT Technician   *Q1/2021 – Q2/2021*
AALTO UNIVERSITY STUDENT UNION, AYY   *Espoo, Finland*

Service development and maintenance.

Keywords: *Python, Django, Linux, Azure Active Directory, PHP, Fedora, JavaScript, Bootstrap 3*

Software Developer   *Q3/2020 - Q3/2020*
VISMA CONSULTING OY   *Helsinki, Finland*

Speech controlled automatic surveys.

Keywords: *React, Azure, AWS, Text to Speech, Speech to Text, JavaScript, TypeScript, Serverless*

Full Stack Developer   *Q3/2020 – Q3/2020*
VISMA CONSULTING OY   *Helsinki, Finland*

AI-based cognitive features analyzer.

Keywords: *React, Serverless, AWS, Chart.js, TypeScript, AWS Comprehend, AWS Transcribe, Node.js*

Game Developer   *Q3/2019 – Q3/2019*
PHZ GAME STUDIOS   *Helsinki, Finland*

A mobile game called Siege Castles.

Keywords: *Unity 3D, C#, XP (Extreme Programming), Google AdMob, Programmatic Advertising, Apple Store, Google Play Store*

Full Stack Developer   *Q2/2019 – Q3/2019*
PHZ FULL STACK   *Helsinki, Finland*

A time reporting software.

Keywords: *Docker, Docker Compose, React, TypeScript, Redux, Node.js, Express.js, RESTful API, JavaScript, MySQL, Single Sign-on (SSO), LDAP, Keycloak, Jenkins, Scala, XP (Extreme Programming)*

Backend Developer   *Q2/2018 – Q3/2018*
APPRIEN   *Helsinki, Finland*

A dynamic pricing engine.

Keywords: *PHP, Vagrant, Jenkins, Test Driven Development (TDD), API, RESTful, Laravel, PHPUnit, Google Play Services, MySQL, In-app purchases, XP (Extreme Programming)*

Resarch & Course Assistant   *Q2/2017 – Q4/2017*
AALTO UNIVERSITY   *Helsinki, Finland*

Programming course Programming Studio 1: media programming.

Keywords: *Scala, Teaching, Prototyping, Java, Sound processing, Image Processing, Signal Processing, Fast Fourier Transformation*

Volunteer activities

Board member and various committees and volunteer positions   *2016–2023*
TIETOKILTA RY   *Espoo, Finland*

During his studies, Kyösti was an active member of his guild Tietokilta and organized dozens of events throughout the years. He was also a member of the board in 2018 as a publicist and he developed a tool for automating the writing of weekly newsletters which is still used to this day. From his time as a member of the guild, he has gained strong people and stress management skills.

Jäynäkilpailu organizer and board member   *2021–2023*
JÄMERÄN TOIMINNAN KILTA RY   *Espoo, Finland*

Organized one of the biggest events of the year in Aalto university student culture, Jäynäfinaali. In addition, participated in organizing smaller events throughout the year, managed corporate relationships, and developed a streaming and a voting platform for jäynäfinaali.

Secretary and chairperson   *2018-2019*
OTA-KARJUT RY   *Espoo, Finland*

Kyösti was the secretary and the chairperson of Ota-Karjut ry, an organization of about 80 people, which organises events and workshops to improve communal living in Otaniemi.