Rokas Bendikas

Flat A, 79 Onslow Gardens, London, SW7 3BU
Mobile: +37061222511, Email address: rokas.bendikas20@ic.ac.uk

Summary

Machine Learning Engineer / Researcher Engineer with extensive background in **Robotics** and **Biomedical Research**. **3+ years of experience** in applied research, including **Image Processing** / **End-To-End robotic control** / **Mechatronics** / **Reinforcement Learning**. Strong programming knowledge in **C++**, **MATLAB**, **Python**. Extensive expertise in **Deep Learning**, **ROS**, **Parallel Processing** development.

Work experience

11/2018 – 05/2020 **King's College London, St Thomas' Hospital** – London, United Kingdom.

1. **Software developer for medical image segmentation application**

- Developed a semi-automatic pipeline for atrial DT-MRI/LGE data segmentation and registration, which is implemented into CEMRG App.

Programming languages: MATLAB, Python.

2. **ML architecture developer**

- Designed and trained CNN, mapping atrial anatomy and fibrosis data onto action potential phase singularity map.

Programming languages: Python, **Platform:** PyTorch.

3. **Data engineer**

- Developed a pipeline, allowing the clinicians to visualize and analyse atrial conduction velocity data using state-of-art software.

Programming languages: MATLAB

09/2018 – 09/2019 **King's College London Engineering Society** – London, United Kingdom.

- Vice president / Treasurer.

09/2018 – 10/2018 **UAB "Koris"** – Klaipėda, Lithuania.

Software engineer (Contract Job)

- Created a WEB-API for the multimodal sensor data migration from/to an SQL database using Docker package manager.

Platform: .NET Core 2.1, Docker; **IDE:** Visual Studio 2017; **Programming languages:** C#, SQL.

05/2018 – 08/2018	**King's College London, St Thomas' Hospital** – London, United Kingdom. **Computer vision summer research intern** • Designed and assembled an apparatus, utilizing the visual features from three MS Kinect Cameras, to track and measure parameters of the patient rib cage motion. • Developed a software using WIN API and DirectX 12 in C++ language to process and visualize the data acquired from the setup. • Tested the apparatus performance on real subject cohort. • Compiled a report of the project. **IDE:** Visual Studio 2017, **Programming languages:** C++, **APIs used:** WIN API, DirectX 12.
06/2016 – 08/2016	**Diving Centre "Oktopusas"** – Klaipėda/Plateliai, Lithuania **Managing divemaster** • Worked as a managing divemaster / assisting diving instructor in a diving centre. • Assisted in theoretical and practical activities on the ground and under the water. • Oversaw the financial transactions and maintained the cash register.
08/2016 – 09/2016	**KPMG Baltics** – Klaipėda, Lithuania **Business consulting summer intern** • Participated in one-month summer internship at KPMG Baltics in Lithuania. • Gained financial experience, whilst as a part of a consulting team. • Participated in daily meetings, providing my own insights
01/2017 – 09/2018	**Miesto Vėtrungės** – London, UK **ICT Manager (Part – time, remote job)** • Maintained ICT network by resolving software problems, developing a website.
04/2017 – 09/2018	**UAB "Ribena"** – Klaipėda/London, Lithuania/UK **Development Manager** • Lead a team of 19 sales managers, developing short and long term trade strategies across the country. • Worked closely with the technical development team, implementing ICT solutions and utilising modern software to increase the efficiency of the managment proceses.

Research experience

2020-2021 **Imperial College London** – London, United Kingdom

Sim-to-real deep reinforcement transfer learning using model-based acceleration for end-to-end robot manipulation tasks.

2020-2021 **Imperial College London** – London, United Kingdom

Robotic arm manipulation in simulated environment, using multi-agent deep reinforcement learning with asynchronous policy updates.

2019-2020 **King's College London** – London, United Kingdom

Investigating the effects of atrial anatomy and fibrosis on atrial fibrillation mechanisms using biophysical modelling and deep learning.

2017-2018 **St. Thomas hospital** – London, United Kingdom

Rib cage wall motion tracking, using an array of Microsoft Kinect cameras.

Education and Training

2020 - 2021 **Imperial College London** – London, United Kingdom
MSc: Computing (Artificial Intelligence and Machine Learning)

2017 - 2020 **King's College London** – London, United Kingdom
BEng: Biomedical Engineering (1st class)
Modules covered: Mathematics, physics, anatomy and physiology, computer programming, electrical engineering, mechanics, computational statistics, computational methods, electromagnetism, signals and systems, advanced mechanics, mechatronics, machine learning, object-oriented programming, advanced finite element methods.

2017 **Windermere School** – Windermere, Cumbria, United Kingdom
International Baccalaureate
Higher Level subjects (out of 7): Maths - 6, Physics - 6, Economics - 5. Standard level subjects (out of 7): Chemistry - 5, Italian ab initio - 6, English A Language and Literature - 5.

2015 **Windermere School** – Windermere, Cumbria, United Kingdom
GCSE and IGCSE
Maths - A*, Physics - A*, Biology - A*, Geography - A, English as a second language - A, English as a first language - C.

Skills

- ROS for multi-copter platforms.
- Probabilistic robotics.
- Machine Learning in Tensor Flow, PyTorch.
- Computer Vision and pattern recognition.
- Reinforcement Learning.
- Arduino / Raspberry Pi.
- Natural Language Processing.
- Medical Imaging.
- Bash scripting.
- CUDA programming.
- HPC systems, parallel computing.
- GitHub development style.
- Working knowledge of Web development (HTML, PHP).
- WIN API, DirectX 12 in C++.

Research

- Caroline H., et al. "Constructing a Human Atrial Fibre Atlas.", Annals of Biomedical Engineering (2020). https://doi.org/10.1007/s10439-020-02525-w

- Caroline H., et al. “Left Atrial Surface Area And Pulmonary Vein Driver Density Predict Persistent Af Pulmonary Vein Isolation Outcome.”, Heart Rhythmic Science 2020. https://cslide-us.ctimeetingtech.com/hrs20/attendee/eposter/poster/989

- Caroline H., et al. “In silico Comparison of Left Atrial Ablation Techniques That Target the Anatomical, Structural, and Electrical Substrates of Atrial Fibrillation”, Frontiers in Physiology, section Cardiac Electrophysiology (2020). https://doi.org/10.3389/fphys.2020.572874

- Caroline H., et al. “Constructing Virtual Patient Cohorts for Simulating Atrial Fibrillation Ablation.”, Computing in Cardiology (2020). https://www.cinc.org/2020/Program/accepted/117_CinCFinalPDF.pdf

Awards

- National biology Olympiad 2011 finalist.
- National physics Olympiad 2011, 2012 finalist.
- Academic excellence award in Year 12.
- King's Undergraduate Research Fellowship.

References

- **Prof. Kawal Rhode**, Head of the Department
  King's College London
  Biomedical Engineering Department
  Mobile: +447956971142
  Email: kawal.rhode@kcl.ac.uk

- **Rokas Kasperavičius**, Senior Partner
  KPMG Baltics
  Mobile: +37065285013

- **Prof. Steven Niederer**, Research Group Leader
  King's College London
  Biomedical Engineering Department
  Email: steven.niederer@kcl.ac.uk

- **Dr. Caroline Roney**, Immediate supervisor
  King's College London
  Biomedical Engineering Department
  Email: caroline.roney@kcl.ac.uk