Karolis Jankauskas

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A Biochemical Engineer with research experience turned Data Scientist.

Experienced in building and scaling deep learning solutions, backend development, statistical analysis, and operational research.

Languages Python • Cython • C++ • CUDA • SQL • R • Julia
Libraries Keras • TensorFlow • Dask • PySpark • Xgboost • rpy2 • Plotly • Dash
Backend Flask • Django • Celery • Redis • RabbitMQ
Databases PostgreSQL • MySQL • InfluxDB
Other CircleCI • AWS • Docker • Kubernetes

EXPERIENCE

Data Scientist
WorldQuant
London, UK, 2018 September – Present

WorldQuant is a quantitative asset management firm with more than 700 employees across 26 offices in 15 countries.

- Developed a real-time enc-dec LSTM-based multivariate time series anomalies detection system.
- Full stack machine learning model development (Keras, Dash, Flask, Celery, Redis, Docker, Kubernetes).

Machine Learning Engineer
Aiden.ai
London, UK, 2018 February – 2018 September

Aiden is a Natural Language Processing (NLP) powered virtual assistant who helps marketers make better decisions.

- Built multi-task deep learning-based ad spend forecasting models to answer questions such as “What will be the total number of impressions, link clicks, and app installs next week if I spend $X on ads ABC targeting Y audience in Z location?”.
- Combined deep learning and evolutionary programming for optimising the weekly ad spend budget.
- Backend development, scheduled data download and preprocessing, and model deployment (Python, R, Flask-based REST API microservices, Celery, Redis, PostgreSQL, Docker).

Data Scientist
Picasso Labs
London, UK, 2017 Feb – 2018 February

Picasso Labs is recognised as one of Unilever Foundry’s most ambitious and innovative start-ups of the past 5 years.

- Developed deep learning (CNN)-based image classification, object and facial expression detection models.
- Created a Content-based Image Retrieval (CBIR) system using transfer learning, HOG, and HSV features as indices.
- Performed A/B tests and linear regression-based analysis.
- Web scraped and analysed over 5000 web-scraped images from the US online media for “visual bias”. See www.newsweek.com/liberal-media-not-biased-trump-thinks-703291

Teaching Assistant
UCL Biochemical Engineering
London, UK, 2016 February – 2018 February

Discrete-Event Simulation, Mathematical Programming, Evolutionary Programming, and Multivariate Data Analysis.

Consultant
Sphere Fluidics Ltd
Cambridge, UK, 2014 June – 2014 August

Research Associate
UCL Advanced Centre for Biochemical Engineering
London, UK, 2013 June – 2013 August

EDUCATION

UCL
London, UK, 2014 – 2018
PhD, Biochemical Engineering (Operational Research)

Using C++, CUDA, and Cython, developed Machine Learning (Evolutionary Programming and Swarm Intelligence) and Simulation-based tools for solving biopharma capacity planning and scheduling problems.

Accomplishments

- Presented a keynote lecture at the 27th European Symposium on Computer Aided Process Engineering (ESCAPE 27), Barcelona, Spain, 2017.
- Awarded a Year 1 Research Project Prize for Best PhD Project and Poster.

UCL
London, UK, 2010 – 2014
Master of Engineering (MEng), Biochemical Engineering, First-Class Honors

Accomplishments

- Received Jacobs Engineering Design Project Prize.
- Received Head of Department Commendation Award.

Activities

- Fitness instructor at UCLU Muay Thai Club.

Udacity
2017 – 2018
Nanodegree, Artificial Intelligence, Certificate of Completion

PUBLICATIONS & TALKS

Jankauskas, K., Papageorgiou, L.G. and Farid, S.S., 2018. Fast genetic algorithm approaches to solving discrete-time mixed integer linear programming problems of capacity planning and scheduling of biopharmaceutical manufacture. *Computers & Chemical Engineering*. DOI: https://doi.org/10.1016/j.compchemeng.2018.09.019

Jankauskas, K., Papageorgiou, L.G. and Farid, S.S., 2017. Continuous-Time Heuristic Model for Medium-Term Capacity Planning of a Multi-Suite, Multi-Product Biopharmaceutical Facility. In *Computer Aided Chemical Engineering* (Vol. 40, pp. 1303-1308). Elsevier. DOI: https://doi.org/10.1016/B978-0-444-63965-3.50219-1

Jankauskas, K., McCartney, GR., Osborne, MD., Papageorgiou, LG., Farid, SS. 2017. Multi-Objective Capacity Planning for Multi-Product Biopharmaceutical Facilities Under Uncertainty, 253rd ACS National Meeting, San Francisco, USA, April 2-6.

Jankauskas, K., Papageorgiou, LG., Farid, SS. 2016. Production Scheduling of a Multi-Product Biopharmaceutical Facility Using a Genetic Algorithm, 28th European Conference on Operational Research (EURO), Poznan, Poland, July 4-8.

PROJECTS

- www.github.com/karolisjan/BiopharmaScheduling a scheduling library for biopharmaceutical facilities
- www.github.com/karolisjan/DeepLearning a collection of deep learning projects
- www.github.com/karolisjan/Genetic-Programming artificial ant and snake game agents created using genetic programming