Karolis Jankauskas

+44 7858 271487
info@kjankauskas.com
www.kjankauskas.com

Experienced Data Scientist skilled in Python, C++, Machine Learning, Evolutionary Programming, Mathematical Programming, and Biotechnology. Strong engineering professional with a Doctor of Philosophy (PhD) focused in Biochemical Engineering from UCL, solving continuous and combinatorial optimisation problems including but not limited to the portfolio management, and the capacity planning and scheduling of multi-product, multi-site production.

EDUCATION

University College London (UCL), London, UK, 2014 – 2018
PhD in Biochemical Engineering

An industrial case (iCASE) PhD project sponsored by *Eli Lilly & Co.* to develop a machine learning based system for stochastic, multi-objective capacity planning and scheduling of multi-site biopharmaceutical production.

Accomplishments

- Awarded Year 1 Research Project Prize for Best PhD Project and Poster (UCL).
- Developed a **novel, continuous-time, variable chromosome length Genetic Algorithm (GA) and Particle Swarm Optimisation (PSO) based method** to optimize the production throughput and inventory levels of a multi-product biopharmaceutical facility. Presented at the 28th European Conference on Operational Research (EURO), Poznan, Poland, 2016.
- Accepted for a **keynote lecture** at the 27th European Symposium on Computer Aided Process Engineering – ESCAPE 27, Barcelona, Spain, 2017**.**
- Developed a system based on **a multi-objective GA and a GPU-accelerated Monte Carlo simulation to produce robust schedules under uncertain product demand**. Presented at the 253rd ACS National Meeting, San Francisco, USA, 2017.
- Created capacity plans that could improve plant throughput by at least 50% and maintain the inventory at the specified monthly levels over a 3-year period.

UCL, London, UK, 2010 – 2014
MEng in Biochemical Engineering, First-Class Honors

This is an *IChemE* accredited professional degree qualification that requires a multi-disciplinary understanding of process engineering.

Accomplishments

- Created a detailed process economics model for a novel targeted secretion inhibitor (TSI) technology platform developed by *Syntaxin Ltd.* to optimize the costs of goods.
- Received **Jacobs Engineering Design Project Prize for Outstanding Team Effort** for a Year 3 Design Project with the aim to design an innovative process for rituximab production, a monoclonal antibody used to treat non-Hodgkin's lymphoma.

EXPERIENCE

Data Scientist,
Picasso Labs, London, UK, 2017 February – Present

Developing a computer vision and machine learning based framework for exploring the relationship between an image's features and the performance of that image on social media channels.

Highlights

- Using Natural Language Processing (NLP) to detect media bias and analyze social media sentiment.
- Developing a content-based image retrieval system for searching for similar images.

Teaching Assistant
UCL Biochemical Engineering Dept., London, UK, 2015 September – Present

Supervising BEng and MEng Research Projects and teaching Bioprocess Systems Engineering course to final year MEng and MSc Biochemical Engineering students. Specific course highlights include Discrete-Event Simulation, Mathematical Programming, Meta-Heuristics, and Multi-Criteria Optimisation.

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

Tested and characterised different microfluidic cell sorter designs for a novel single-cell screening and analysis system. Built models for predicting the hydraulic resistance and the flow rate/differential pressure in microfluidic chips.

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

Worked on the optimisation of fermentation conditions for the production of virus-like particles (VLPs) from *Pichia pastoris* cell expression system for universal influenza vaccine research. Worked closely with the biotechnology company iQur Ltd who owned the technology.

Accomplishments

- Received **Head of Department Commendation Award** for the performance and results showed during the internship.

SKILLS

Programming

- C/C++ & CUDA
- Python
- C#
- MATLAB
- PostgresSQL
- General Algebraic Modelling System (GAMS)

OS

- Windows
- MacOS
- Linux

General

- Genetic Algorithms & Programming
- Mathematical Programming
- Multi-Objective & Stochastic Optimisation
- Statistical Inference & Statistical Analysis
- Computer Vision
- Natural Language Processing