Orfeas Kypris

✆ +30 693 8199831
✉ kypriso@gmail.com

Personal Statement

I have a strong mathematical/computational background and technology transfer experience in software development for data science and machine learning applications. I have a passion for algorithm development, data aggregation, modeling, transformation and presentation, all geared towards deriving useful insight from data and unlocking new possibilities for organisations. I relish challenges, I am a creative problem solver who is able to work independently with minimum supervision, and I adapt quickly to new work environments. My goal is to apply my data science and software development skills to solve challenging problems with societal impact, and I am now seeking my next opportunity at a data-driven organization.

Web presence: LinkedIn, GitHub, Medium

Highlights:

- 6 years of engineering research at top tier institutions (Iowa State University / University of Oxford) & 5 years of engineering experience in industry
- Expertise in sensor signal processing, machine / deep learning, sensor networks, algorithm development, data analysis and visualization
- Languages: Python (advanced), Javascript (intermediate), C++ (proficient)
- First author in IoT and data science patents

Skills

Languages: English, German, Greek. **Presentation and Design**: LaTeX, Inkscape, matplotlib. **Programming technology stack**: Python (scikit-learn, scipy, numpy, pandas, anaconda, jupyter notebook, keras, conda, venv), MATLAB, C++, React, React Native, databases (MongoDB, PostgreSQL), Linux, Git, Bash, Docker, unit/acceptance testing.

Experience

July 2021–Pr. **Freelancer**, *Global*.
- Providing data analytics services to for-profit and not-for-profit organizations.

November 2021–Pr. **Data Scientist**, *DataKind UK*, London, U.K..
- Volunteering with a team of data scientists to provide data-driven insights for NGOs and empowering humanitarian aid distribution and data-driven decision making.
- Processing spatiotemporal satellite data and building machine learning models to optimize aid delivery in Sub-Saharan Africa.
- Refactoring and productionizing existing codebase with unit testing and CI.

December 2018–July 2021 **R&D Engineer**, *iKnowHow SA*, Athens, Greece.
- Led the AI and software division of the company.
- Developed and integrated deep learning algorithms for robotic vision (Minotaur-R), 3-D scanning and reconstruction algorithms (RoboWeldAR)
- Developed R&D proposals and secured a total of €400k of E.U. funding for AI and robotics-related research projects.

April 2017–July 2018. **Data Scientist and Systems Developer**, *Navenio Ltd.*, Oxford, U.K.
Developed a core component of a novel indoor localization engine using Python and C++. More specifically:
- Developed unsupervised learning algorithms for use on smartphone sensor data for the purposes of building infrastructure-free WiFi maps of buildings
- Developed software components for cleaning, analysis and visualization of large datasets
- Developed software components as part of a machine learning pipeline
- Collaborated with the core and backend team to deliver solutions to clients

March 2017	**Data Science Fellow**, *Pivigo Ltd.*, London, U.K.

During the program, I worked in a team of three on a project with TwentyCI (UK). The project aim was to analyze home mover data for predicting furniture sales using random forests and logistic regression. Achievements:
- Better targeting of potential customers
- 4x success rate of correct identification of customers (6.5%) compared to pre-existing system (1.6%)
- Time-dependent ranking to identify best time of contact with 25% accuracy (vs. 9% for random selection)
- Replaced hand-crafted reporting with automated process coded in R, for data preprocessing/cleansing, and model training

2015–2017 **Postdoctoral Research Associate**, *Sensor Networks Group, Department of Computer Science, University of Oxford*, U.K.
- Conducted research for the mi6sense.org project, a novel framework for structural health monitoring of large structures.
- Developed structalyse.org, a novel *patent-pending* condition monitoring system for smart buildings, based on a magnetoinductive sensor that can measure displacements down to *millimeter level*
- Conducted physical simulations (COMSOL Multiphysics, MATLAB) to simulate sensor performance,
- Developed and debugged the hardware (embedded C++, LabVIEW, LTSpice, EagleCAD) and software layers (MATLAB, Python)
- Collected *20 GB of my own sensor data which I then pre-conditioned and analyzed*.
- Designed and taught an intensive MATLAB course in the Oxford University IT Learning Programme, with emphasis on *numerical methods for scientists*.

2011–2015 **Graduate Research Assistant**, *Iowa State University*, U.S.A.
- Developed a measurement system and numerical algorithms that can measure and classify residual stress in steel helicopter gears from measurements of time-series magnetic data.
- Developed signal processing library (MATLAB) to analyze *stochastic time-series data* using custom feature detection (using envelope, peak, RMS, FFT, autocorrelation, ARIMA), the hardware (LabVIEW) and front-end (MATLAB, Python) layers. My algorithm showed 20% improved performance over commercial ones, as it could identify faulty components with 93% accuracy.
- Recipient of numerous awards.

Research

Related expertise: machine learning, deep learning, algorithm development, signal processing, unsupervised learning, computer vision, time series analysis. **Research publications**: 15 top-tier publications, and h-index of 10 according to Google Scholar. **Outreach/Communication**: Presented at 12 scientific conferences in Europe, U.S.A. and Korea over the last 6 years.

Selected Awards and Scholarships

Iowa State University Research Excellence Award, Takano PhD Fellowship (Iowa State Univ.), Appointed member of IEEE-Eta Kappa Nu for outstanding academic achievements, EPSRC MSc Scholarship (Cardiff Univ.), Best Student Poster Presentation Award (56th Conference on Magnetism and Magnetic Materials), IEEE Magnetics Summer School Attendee (sponsored), American Physical Society FGSA Travel Award for Excellence in Graduate Research, IEEE Travel Grant

Education

2011–2015 **Ph.D. Electrical Engineering**, *Department of Electrical and Computer Engineering, Iowa State University*, U.S.A.
Funded by Takano PhD Fellowship.

2009–2010 **M.Sc. Magnetics**, *Wolfson Institute for Magnetics Research, Cardiff University*, U.K.
Funded by EPSRC MSc Scholarship.

2006–2009 **B.Eng. Electrical and Electronic Engineering**, *Cardiff University*, U.K.

Miscellaneous

I play classical and jazz clarinet and saxophone, produce electronic music, and work independently on my own coding projects.