CURRICULUM VITAE

PERSONAL INFORMATION

Name: Merak Kociński
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GitHub: https://github.com/marekkoc
Location: Bergen, Norway

SUMMARY

Researcher and software developer with extensive experience in computer science, data science, computer vision, and 2D/3D visualization. PhD in Computer Science with specialization in medical image analysis. Strong expertise in Python, C++, Matlab, and R programming. Proven ability to collaborate in multidisciplinary environments and communicate effectively with diverse teams.

PROFESSIONAL EXPERIENCE

Postdoctoral Fellow, Researcher (2019-2022)

Department of Biomedicine, University of Bergen, Norway

- Project: "Computational medical imaging and machine learning - methods, infrastructure and applications"
- Applied ML algorithms to predict conversion from mild cognitive impairment to Alzheimer's disease
- Developed algorithms for non-brain tissue removal from heterogeneous 3D MR images
- Implemented image processing, analysis, quantification and 3D visualization algorithms
- Programmed in Python for data science, machine learning, and deep learning applications
- Assisted in teaching in “In vivo imaging and physiological modeling - BMED 360” course
- Prepared scientific documentation, reports, and publications preparation

Assistant Professor (2009-2023)

Institute of Electronics, Technical University of Lodz, Poland

- Taught undergraduate and graduate-level courses in Image Processing, Computer Graphics, Digital Signal Processing, Algorithms and Data Structures, Medical Imaging
- Supervised 40+ bachelor's and master's theses in computer vision, biomedical image processing, 3D visualization
- Conducted research in biomedical engineering, resulting in peer-reviewed publications
- Led research projects in medical imaging with academic and industry partners

Technical Support (2006-2009)

Institute of Electronics, Lodz University of Technology, Poland

- Laboratory setup and maintenance, technical support for students

EDUCATION

PhD in Computer Science (2003-2009)
Lodz University of Technology, Poland
Thesis: "Quantitative analysis of vascular trees represented by digital images"
Distinguished by the Council of the Faculty

Master's Degree in Electronics and Telecommunication (1997-2003)
Lodz University of Technology, Poland

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Matlab, R, Bash scripting
- **Libraries/Frameworks:** PyTorch, TensorFlow, MONAI, FastAI, OpenGL, ITK, VTK, Qt, Pandas, Matplotlib, Seaborn, wxWidgets, ipywidgets
- **Medical Imaging:** DICOM, NifTI , ITK-SNAP, Paraview,
- **Image Processing:** segmentation, analysis, detection, quantification, 3D visualization,
- **Machine Learning:** scikit-learn, deep learning for medical image analysis (segmentation, classification, detection)
- **Version Control:** Git

SELECTED PROJECTS

- Prediction of Alzheimer's disease progression using ML algorithms
- Non-brain tissue removal from 3D MR images using Deep Learning
- Quantitative analysis of blood vessels from 3D MR images
- Kidney compartment segmentation and visualization
- Texture analysis of MR endometrial carcinoma images
- 3D modeling for maxillofacial surgery planning

LANGUAGES

- English: Fluent (spoken and written)
- Norwegian: Basic
- Polish: Native

PROFESSIONAL INTERESTS AND PASSIONS

- Electronics and robotics
- Photography
- Hiking
- Cooking