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Machine learning and computer vision for urban drainage inspections

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Curriculum Vitae

Dirk Meijer (he/him) was born in 1989 in The Hague, the Netherlands. He graduated from the Oranje Nassau College in Zoetermeer in 2007 and went on to study in Delft.

He obtained a BSc degree in Applied Physics in 2014 from the Delft University of Technology (thesis: *Evaluation of Fundus Photo Registration Quality for Progression Detection of Diabetic Retinopathy*; supervisor: prof.dr.ir. Lucas J. van Vliet) with a minor in Media & Knowledge Engineering, which provided access to the Computer Science master at the same university. In 2016 he obtained a MSc degree in Computer Science at the Delft University of Technology (thesis: *Regularizing AdaBoost to Prevent Overfitting on Label Noise*; supervisor: dr. David. M. J. Tax) and became an engineer.

Dirk set out to obtain a doctorate degree at Leiden University in 2016, joining the *SewerSense* project, a cooperation between the Delft University of Technology, Leiden University, and a consortium of NWO/TTW, RIONED, STOWA, and KPUD. This thesis is the culmination of Dirk's part in the SewerSense research project.

Since 2022, Dirk is employed as a post-doctoral researcher and scientific programmer at the Human-Centered Data Analytics (HCDA) group at the Centrum voor Wiskunde en Informatica (CWI) in Amsterdam.

List of Publications

In chronological order.

- Couvert, Rosalie; **Meijer, Dirk W. J.**; Ensing, Ronald M.; Martinez, José P.; Vermeer, Koenraad A.; and van Vliet, Lucas J.
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- **Meijer, Dirk W. J.**; and Knobbe, Arno J.
  Unsupervised Region of Interest Detection in Sewer Pipe Images: Outlier Detection and Dimensionality Reduction Methods (Extended Abstract)
  In: Proceedings of the 26th Benelux Conference on Machine Learning (BeneLearn), 2017.
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  Unsupervised Anomaly Detection in Sewer Images with a PCA-based Framework
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- **Meijer, Dirk W. J.**; Toussaint, Guus; and Knobbe, Arno J.
  Deep Subgroups: A Neural Network Architecture for Subgroup Discovery
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- **Meijer, Dirk W. J.**; Luimes, Rianne A.; Knobbe, Arno J.; and Bäck, Thomas H. W.
  Anomaly Detection in Urban Drainage with Stereovision
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