EUROPEAN INFORMATION TECHNOLOGIES CERTIFICATION INSTITUTE, ASBL.

Brussels, Belgium, European Union

# CERTIFICATE

## Marcus Heinath

Has successfully completed test requirements of
The European Information Technologies Certification Programme

### EITC/AI/GCML Google Cloud Machine Learning

**Certification Programme examination result:** 86.67%

**Certification Programme description:**

Introduction: what is machine learning; First steps in Machine Learning: the 7 steps of machine learning, plain and simple estimators, serverless predictions at scale, TensorBoard for model visualization, deep neural networks and estimators; Further steps in Machine Learning: big data for training models in the cloud, natural language generation, distributed training in the cloud, machine learning use case in fashion, data wrangling with pandas (Python Data Analysis Library), introduction to Kaggle Kernels, working with Jupyter, choosing Python package manager; Google tools for Machine Learning: Google Cloud Datalab - notebook in the cloud, printing statements in TensorFlow, TensorFlow object detection on iOS, visualizing data with Facets, Google Quick Draw - doodle dataset, Google machine learning overview; Advancing in Machine Learning: GCP BigQuery and open datasets, data science project with Kaggle, AutoML Vision, Scikit-learn, Scikit-learn models at scale, Introduction to Keras, scaling up Keras with estimators, introduction to TensorFlow.js, importing Keras model into TensorFlow.js, deep learning VM Images, TensorFlow Hub for more productive machine learning, TensorFlow Eager Mode, Jupyter on the web with Colab, upgrading Colab with more compute, Kubeflow - machine learning on Kubernetes, BigQuery ML - machine learning with standard SQL; Expertise in Machine Learning: PyTorch on GCP, AutoML Tables, TensorFlow privacy, visualizing convolutional neural networks with Lucid, understanding image models and predictions using an Activation Atlas, natural language processing - bag of words, AutoML natural language for custom text classification, Tensor Processing Units - history and hardware, diving into the TPU v2 and v3; Google Cloud AI Platform: AI Platform training with built-in algorithms, training models with custom containers on Cloud AI Platform, using the What-If tool for explainability, introduction to Explanations for AI Platform, Cloud AI Data labeling service, introduction to JAX, setting up AI Platform Pipelines, AI Platform Optimizer, persistent Disk for productive data science, translation API, AutoML Translation

**Certificate Programme version/revision: EITC/AI/GCMLv1r1**

CERTIFICATE ID: **EITC/AI/GCML/SLJ26004475**

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