Mikhail Nikitin

mikhail.nikitin92@gmail.com mnikitin +79653804518

EDUCATION

Specialist Degree — **Moscow State University**
Computational Mathematics and Cybernetics Department — *2009 - 2014*
Graphics & Media Lab, Computer Vision Group

PhD Degree — **Moscow State University**
Computational Mathematics and Cybernetics Department — *Expected Graduation: 2022*
Graphics & Media Lab, Computer Vision Group

EXPERIENCE

Video Analysis Technologies (Tevian) — **Moscow, part-time**
Junior Computer Vision Researcher — *July 2012 - Sept 2013*
- Face Recognition and Face Features Detection based on hand-crafted features

Video Analysis Technologies (Tevian) — **Moscow**
Software Developer and Researcher — *Oct 2013 – Dec 2014*
- Face Recognition, Face Features Detection and Face Quality Assessment based on hand-crafted features
- Data annotation management
- Implemented some investigated algorithms in C++ for integration into the Tevian FaceSDK
- Developed multithreaded facial analysis system for one of the customers

Video Analysis Technologies (Tevian) — **Moscow**
Computer Vision Researcher — *Jan 2015 – Dec 2018*
- Developed new or improved existed algorithms in Tevian FaceSDK:
  - Face Recognition (continuous improvement)
  - Face Quality Assessment (simple face rotation classifiers and brand new training method for overall FQA)
  - Anti-spoofing (using synthetic data created one of the first deep learning based algorithms in the world)
  - Face detector false positives filter
- Developed several vehicle classifiers for analysis of data from traffic monitoring cameras
- Created some auxiliary algorithms for automatic store's shelves fullness analysis
- As scientific supervisor worked on the following projects:
  - Person re-identification
  - TV broadcast analysis

Video Analysis Technologies (Tevian) — **Moscow**
Lead Computer Vision Researcher — *Jan 2019 – Now*
- Lead team of researches who work on further improvemenet of Tevian FaceSDK
- Team research projects:
  - Face anti-spoofing (RGB and depth based algorithms)
  - Facial attributes classification (eyewear, headwear, facial hair, hair type, hair color)
  - Face-based demography analysis (gender, age, ethnicity)
  - Face Quality Assessment (fr-based overall quality estimator)
  - Face Recognition:
    - general improvement using new architecture blocks and training methods
    - domain-specific improvements (medical masks, demography biases, high FPR with low quality faces)
    - data refinement (test datasets and large-scale training dataset)
    - face images clustering
    - speeding up facial features extraction and matching

ADDITIONAL

- For several years was the only researcher in company who worked on the face recognition algorithm
- Tevian's FR engine is used in many real-life projects across the world, and its high quality additionally confirmed by the NIST FRVT (3rd among Russian vendors)
- In 2015 won olympiad on computer vision organized by VisionLabs. As a reward, did short-term internship at INRIA Paris where worked on video face recognition under supervision of Ivan Laptev
- As PhD student, taught programming courses at the university, and was an unofficial scientific supervisor for several Lab students

PUBLICATIONS

- Nikitin M. et al. *Face quality assessment for face verification in video.* In GraphiCon'2014
- Nikitin M. et al. *Neural network model for video-based face recognition with frames quality assessment.* In Computer Optics 41 (5), 2017
- Nikitin M. et al. *Face anti-spoofing with joint spoofing medium detection and eye blinking analysis.* In Computer Optics 43 (4), 2019
- Nikitin M. et al. *Pairwise Ranking Distillation for Deep Face Recognition.* In GraphiCon'2020