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Bulent Siyah
Istanbul, Turkey

Software Engineer (Computer Vision | Deep Learning)

I specialize in Deep Learning and Computer Vision, with a focus on Unmanned Aerial Vehicles (UAVs). I have extensive experience in image classification, image segmentation, object detection, object recognition, object tracking, pose estimation, pattern recognition, and autonomous vehicles. I have contributed to several noteworthy projects in this field, including the Emergency Landing Site Identification System, Sense and Avoid System, Guidance for Autonomous Landing, and Vision-Based Navigation of UAVs in GPS Denied Conditions.

You can find more information about my work on my website at www.bulentsiyah.com. Additionally, I have shared the source code for all of my projects on both Kaggle and Github.

Experience

Computer Vision Engineer – SoftTech Software Tech. Inc - Aircar Corp. *, Istanbul/Turkey* 10/2019 - Present
I am currently collaborating with SoftTech Software Technologies and Aircar Corp. on the development of an electric-powered vertical takeoff and landing (eVTOL) aircraft. As part of this project, I am responsible for semantic segmentation of aerial images to identify suitable landing areas, volumetric control of the vehicle during landing, and developing image-based positioning solutions for use in GPS-denied environments. Additionally, I am working on a project focused on passenger mood analysis, aimed at enhancing the overall user experience.

Deep Learning Research Engineer – SoftTech Software Tech. Inc. , Istanbul/Turkey 10/2018 - 10/2019
As a Deep Learning Engineer at SoftTech Software Technologies, I specialized in medical image and video processing. I conducted extensive research on using Convolutional Neural Networks (CNNs) to optimize medical image analysis. One of my latest projects involved determining a patient's age using a left-handed X-ray image. This study represents the latest in a series of initiatives focused on leveraging deep learning to extract valuable insights from complex medical imaging data.

Mobile Application Developer – Geobilgi IT Technologies, Istanbul/Turkey 06/2015 – 07/2018
As part of my role, I have experience developing iOS and Android applications using the company's current technologies, as well as building custom software solutions for our clients.

Mobile Application Developer – Rota Internet Technology Services , Istanbul/Turkey 07/2012 – 06/2015
I worked as a Mobile Application Developer at Rota Internet Technology Services, where I specialized in developing applications for vehicle tracking using Android devices and Geographic Information Systems (GIS).

Education

Mustafa Kemal University, Turkey – Computer Engineering 2008 – 2012
I graduated from Mustafa Kemal University's Computer Engineering Department in 2012 with a GPA of 3.06 out of 4. During my studies, I attended classes at the Iskenderun Campus of Mustafa Kemal University. It's worth noting that the Faculty of Engineering was transferred to the newly established Iskenderun Technical University in 2015.

Skills

- Deep Learning: including Deep Neural Networks (DNN), Convolutional Neural Networks (CNN), Recurrent Neural Networks (RNN), Long Short-term Memory (LSTM), Siamese Neural Networks, and other advanced techniques
- Computer Vision: Image Classification, Low-Shot Object Detection, Object Recognition, Object Tracking, Panoptic (Instance) Semantic Segmentation, Motion Detection, Template Matching, Optical Flow, Pose Estimation, Pattern Recognition, and related fields
- Frameworks: experience with Keras, TensorFlow, PyTorch, and other popular deep learning frameworks
- Programming Languages: Object-Oriented Programming (OOP) and proficiency in Python, Java, C#, and other relevant languages
- Robotics:Visual Odometry, Visual Localization, Visual SLAM and other robotics-related skills
- Kaggle: familiarity with the popular data science competition platform

- Advanced Techniques: experience with advanced techniques such as U-Net, Camera Calibration, Genetic Algorithms
- Mobile Development: experience developing Android and iOS applications
- Linux: familiarity with Linux operating system and related tools.

Projects

Deep Learning Projects

- Semi-Automatic Labeling Tool for Object Detection and Segmentation
- Deep Learning-Based Sense and Avoid System for Unmanned Aerial Vehicles (UAVs)
- Vision-Based Navigation of UAVs in GPS Denied Conditions
- Vision-Based Guidance for Autonomous Landing of UAVs
- Deep Learning-Based Emergency Landing Site Identification System for UAVs
- Bone Age Prediction from X-Ray Images
- Plant Disease Detection using Siamese Network
- Name of Container and License Plate Recognition via Deep Neural Networks
- Human Detection and Action Recognition using Object Detection, Heat Map, and Pose Estimation
- Chest X-Ray Images Classification for 14 Diseases and "No Findings" using CNN
- Green Restricted Vehicle Routing Problem Optimization using Genetic Algorithm in C#
- Double Sided Assembly Line Balancing Optimization using Genetic Algorithm in C#

Mobile Projects

- Aircraft Tracking System for VFR Flying (Android)
- Motion Recognition App with Gyroscope Sensor (Android)
- Ship Information System Remote Control App (iOS)

Certifications

Deep Learning

- Udacity:
  - Computer Vision Nanodegree
- deeplearning.ai:
  - Neural Networks and Deep Learning
  - Convolutional Neural Networks
  - AI for Medical Diagnosis
- Elements of AI:
  - The University of Helsinki
- Kaggle:
  - Kaggle Notebooks Master
  - Kaggle Discussion & Dataset Expert
- Other:
  - Deep Learning Computer Vision™ CNN, OpenCV, YOLO, SSD & GANs
  - Face and Object Recognition with Computer Vision | R-CNN, SSD, GANs
  - Machine Learning with Python A-Z ™
  - Applied Machine Learning For Healthcare
  - Natural Language Processing A-Z ™: (NLP)

Mobile Deep Learning

- Fundamentals of Core ML: Machine Learning for IOS
- Mobile Machine Learning for Android: TensorFlow & Python

Language

- Turkish (Native)
- English (Intermediate)