Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 12/10/18

Progress: (circle at least one): Excellent; Good; Satisfactory; Poor; Absent; Behind Schedule

Progress achieved since last meeting

First meeting

Feedback given:

Things going well:

N/A

Things needing to improve:

N/A

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Research further liveness methods, and most suitable to focus on for this project

Project a good project plan – with an updated Gantt Chart and more specific direction

Medium term objectives:

Decide at the next meeting

Any other issues/difficulties:

Date of next meeting: 19/10/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 19/10/18

Progress: (circle at least one): Excellent; Good; Satisfactory; Poor; Absent; Behind Schedule

Progress achieved since last meeting

Researched further liveness methods, and most suitable to focus on for this project

Updated the project plan – with an updated Gantt Chart and more specific direction

Feedback given:

Things going well:

N/A

Things needing to improve:

Need to speed up

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Update objectives to include training, evaluation, analysis, comparison (more explicitly)

Start on the development of test framework

Medium term objectives:

Build the framework, and get the databases ready.

Any other issues/difficulties:

Date of next meeting: 26/10/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 26/10/18

Progress: (circle at least one): Excellent;

Progress achieved since last meeting

Updated objectives to include training, evaluation, analysis, comparison (more explicitly)

Started on the development of test framework

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Register for access to Replay-Attack database, and integrate this dataset into our test framework.

Construct a generic model, which can be executed by the test runner (for now simply printing out some data relating to the dataset specified)

Medium term objectives:

Build the framework, and get the databases ready.

Any other issues/difficulties:

Date of next meeting: 2/11/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 26/10/18

Progress: (circle at least one): Excellent;

Progress achieved since last meeting

Registered for access to Replay-Attack database, and integrated this dataset into our test framework.

Constructed a generic model, which can be executed by the test runner (for now simply printing out some data relating to the dataset specified)

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Implement Reference Image Creator (Gaussian subtraction)

Implement metrics 1-10 within the liveness method

Medium term objectives:

Implement and train the ‘Quality Liveness Test’

Any other issues/difficulties:

Date of next meeting: 8/11/18 2.30pm

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 08/11/18

Progress: (circle at least one): Excellent;

Progress achieved since last meeting

Implemented Reference Image Creator (Gaussian subtraction)

Implemented metrics 1-7 within the liveness method

Implemented consolidation vector

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Implement metrics 8-19 within the liveness method

Medium term objectives:

Implement and train the ‘Quality Liveness Test’

Any other issues/difficulties:

Date of next meeting: 1611/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 16/11/18

Progress: (circle at least one): Excellent;

Progress achieved since last meeting

Implement metrics 8-19 within the liveness method

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Implement metrics 20-23 within the liveness method

Medium term objectives:

Implement and train the ‘Quality Liveness Test’

Any other issues/difficulties:

Date of next meeting: 23/11/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 23/11/18

Progress: (circle at least one): Excellent;

Progress achieved since last meeting

Implement metrics 20-22 within the liveness method

The advanced metrics are slightly trickier to implement than expected.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Implement the last metrics (23-26) within the liveness method and implement the base classifier.

Medium term objectives:

Implement and train the ‘Quality Liveness Test’

Any other issues/difficulties:

Date of next meeting: 30/11/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 30/11/18

Progress: (circle at least one): Good;

Progress achieved since last meeting

Implemented metric 23 within the liveness method

The advanced metrics are slightly trickier to implement than expected.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Implement the last two metrics within the liveness method and implement the base classifier.

Medium term objectives:

Implement and train the ‘Quality Liveness Test’

Any other issues/difficulties:

Date of next meeting: 7/12/18 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 18/1/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

Implemented all metrics within the quality liveness method, training for the test needs to be re-run.

Eye tracking liveness test is abandoned, instead both 2D and 3D versions of CNN will be done.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Start implementing the 3D point cloud neural network

Start implementing a residual network for 2D classification

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 25/1/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 18/1/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

Changed the base classifier for the quality liveness test and retrained the network – got much better results. Started implementing a residual network for 2D classification

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Start implementing the 3D point cloud neural network

Start training the residual network for 2D classification

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 1/2/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 1/2/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

Kept implementing/training a residual network for 2D classification, fixed a few issues that improved accuracy. Still, training converges to a local minimum – looking for a way to avoid that.

Haven't started on the 3D side.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):
Keep work on training the residual network for 2D classification

If time permits, start implementing the 3D point cloud neural network

Prepare a demonstration of the current system, update Gantt chart

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 8/2/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Jack Jarvis

Supervisor Name: Andrei Krokhin

Date: 8/02/19

Progress: (circle at least one): good

Progress achieved since last meeting

fixed some bugs in GUI and generally improved it and also improved AI (evaluation function)

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

N/A

Objectives for next meeting (e.g. reading, implementing, writing tasks

Keep improving AI and variable luck, possibly also GUI

Medium term objectives:

Improve GUI, AI, variable luck, test

Any other issues/difficulties:

Date of next meeting: 15/2/2019 10am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 14/2/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

3D VoxNet trained on a generic dataset, yielding expected accuracy.

Image Quality metric model refactored to contain preprocessing, ready for pickling.

Model loader/writer code is completed.

GUI code to visualise a dataset with classification outcome is done, but not tested

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Obtain access to the mask attack dataset

Load the new ImageQuality model into the GUI visualiser for testing.

Colour output to determine whether the model is correctly predicting the outcome.

Start training the VoxNet model using the mask attack dataset.

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 22/2/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 22/2/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

Image Quality metric model refactored – but this introduced an error, the source of which is unclear - needs to be sorted out.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):
Get rid of the error.

Obtain access to the mask attack dataset

Load the new ImageQuality model into the GUI visualiser for testing.

Colour output to determine whether the model is correctly predicting the outcome.

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 1/3/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 1/03/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

An error with the refactored Image Quality metric model is sorted out. The current state of the system is demonstrated. In the process of obtaining access to the mask attack dataset. Loaded the new ImageQuality model into the GUI visualiser for testing.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Colour output to determine whether the model is correctly predicting the outcome.

Start training VoxNet on NUAADataset, to allow future training on a different set (once we have access).

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 11/3/19 10.00am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 11/03/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

In the process of obtaining access to the mask attack dataset.

Fixed the dimension problem with displaying image and chart side by side in the GUI.

Investigated how to merge the 2d-3d and 3d classifier components (Lambda layers don't work)

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Colour output to determine whether the model is correctly predicting the outcome.

Start training VoxNet on NUAADataset, to allow future training on a different set (once we have access).

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: 15/3/19 10.30am

Circulation: Student; Supervisor

Project Meeting Form

Student Name: Ryan Collins

Supervisor Name: Andrei Krokhin

Date: 22/03/19

Progress: (circle at least one): Good;

Progress achieved since last meeting

Got access to the mask attack dataset.

Merging VoxNet and VRN 3D reconstruction network in the same model failed – connecting the two together using tensor based operations seems not to be the best option, so the final option is to conduct reconstruction in the preprocessing phase.

Feedback given:

Things going well:

All goes according to plan

Things needing to improve:

Objectives for next meeting (e.g. reading, implementing, writing tasks):

Write up. Think about set-up for the oral.

Train VoxNet on mask attack dataset.

Medium term objectives:

Implement and train the both 2D and 3D CNN liveness tests

Any other issues/difficulties:

Date of next meeting: TBA, after Easter.

Circulation: Student; Supervisor