

2018 OpenCV Meeting notes

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[[Meeting_notes]]

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2018-mm-dd

Agenda

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Minutes

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To Dos

- Name
 - ☐ todo

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2018-09-26

Agenda

- OSVF
- Documentaries

Minutes

- OSVF
 - Setting up donations policy
 - We have an older attempt at the donation [give and get are here](#)
 - First workshop/conferencette being considered
- Documentaries
 - Grace and I were filmed by a professional crew over 4 days for a large web production. Should come out in 2 months or so
 - Tonight I will give an OpenCV interview on the cable web show Future talk.

To Dos

- Gary
 - ☐ Ideas feedback with Vadim
 - ☐ Put Sophia on GSoC deadline watch and organization

3. OpenCV
4. Open3D
5. CARLA

To Dos

- Gary
 - ☒ Go through filming considerations
 - [-] Evaluate Moriah's OpenCV webiste changes

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2018-07-25

Summer Vacation is upon us. Next report on August 15, 2018

Agenda

- Foundation News

Minutes

- Foundation News
 - OSVF logo is updated:  OSVF
 - Filing DBA announcements so that money wires or checks can go to any of the sub-orgs
 - Bank account will then be updated
 - Federal filing underway
 - [Umbrella website](#)
 - Victor Eruhimov joins as the board member representing [OpenCV](#)
- August vacation hit. See y'all on Aug 15!

To Dos

- Gary
 - ☐ Upload OSCON talk to Github
 - ☐ Expose OSCON tutorials on the coureware links
 - ☐ Evaluate Moriah's OpenCV webiste changes

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2018-07-18

Agenda

- [OSVF](#)
- OSCON
- OpenCV4

Minutes

- [OSVF](#)  OSVF logo

- OSVF.org is a non-profit organization dedicated to advancing the beneficial uses of intelligent computer vision in society.
 - As in the above link, the website is live but still being constructed
 - See planning details [below](#)
- Secured a URL for future conferences/tutorials: Computer Vision Dev Con, CVDevCon.org
- [OSCON](#)
 - We gave an extensive tutorial at the Open Software Foundation
 - Material for [OpenCV Tutorial is here](#)
 - This covers the use of the [OpenCV Deep Neural Net Module](#) that is able to run inference on any trained deepnet model
 - A growing list of [curated deep neural network models for DNN is here](#)
 - [DNN Documentation is here](#)
 - See some of the opencv deepnet (DNN) tutorial for [pose](#) and [object detection](#)
- OpenCV 4
 - Release 3.4.2 is out, see [notes here](#) with further extended dnn module, documentation improvements, some other new functionality and bug fixes.



- DNN 3.4.2 improvements
 - Added a new computational target `DNN_TARGET_OPENCL_FP16` for half-precision floating point arithmetic of deep learning networks using OpenCL. Just use `net.setPreferableTarget(DNN_TARGET_OPENCL_FP16)`.
 - Extended support of Intel's Inference Engine backend to run models on GPU (OpenCL FP32/FP16) and VPU (Myriad 2, FP16) devices. See [an installation guide](#) for details.
 - Enabled import of [Intel's OpenVINO pre-trained networks](#) from intermediate representation (IR).
 - Introduced custom layers support which let you define unimplemented layers or override existing ones. Learn more in [a corresponding tutorial](#).
 - Implemented a new deep learning [sample](#) inspired by [FAST: An Efficient and Accurate Scene Text Detector](#).
 - Added a support of YOLOv3 and image classification models from [Darknet framework](#).
 - Reduced top DNN's memory consumption and improvements in support of networks from TensorFlow and Keras.
- 4.0 will come out in the Fall.

To Dos

- Gary
 - ☐ Evaluate Moriah's OpenCV website changes
 - ☒ Link to courseware
 - ☒ Continue to advance OSVF.org site
- Victor
 - ☒ Permission to take a board seat

2018-07-11

- OSVF
- OpenCV4
- OSCON

- **OSVF**
 - OSVF is an umbrella foundation covering the following organizations
 - [OpenCV.org](#) -- Free and Open Source Computer Vision code plus optimized deep learning
 - [Open3D.org](#) -- Free and Open 3D point cloud library code
 - [CARLA.org](#) -- Free and Open autonomous driving simulator
 - [SVDLG](#) -- Silicon Valley Deep Learning Group
 - Each of these orgs will retain their identity and will be run wholly by their own technical boards, but will cooperate to build a greater whole
 - Their responsibilities are to advance and maintain their respective platforms
 - OSVF is responsible for
 - Education:
 - Put on the Computer Vision Developer's Conference (CVdevcon)
 - CVdevcon will be distinctly different from other vision conferences
 - If will be largely tutorial, development and business focused
 - It will have an "unconference component" meant to facilitate business, solve outstanding vision issues, set standards/challenges adopt certifications etc
 - Run tutorial workshops
 - Develop courseware, hardware and software kits for learning intelligent computer vision
 - Infrastructure:
 - Oversee and help the orgs maintain and advance free and open tools and infrastructure for intelligent computer vision
 - Standards and Certification:
 - Drive standards and hardware/software certifications that help society absorb computer vision
 - Solve Problems:
 - Set challenges and contests to solve significant problems in computer vision with beneficial impact for society
- **OpenCV4.0**
 - Coordinated delayed to Sept timeframe better align with other projects
 - Some of the changes are in or showing up in the 3.4 branch
 - It is still possible that there will be some earlier alpha releases so that it's "pre hardened"
- **OSCON (Open Source Convention)**
 - OpenCV is giving a tutorial there, [see the tutorial link](#), Description:

"Gary Bradski, Anna Petrovicheva, and Satya Mallick offer an overview of OpenCV and explain where it is going. Along the way, you'll learn how to program some fun things that can be used for art, robotics, drones, film, and photography."

- Gary is going to also use it to announce the Open Source Vision Foundation

To Dos

- Gary
 - ☒ New logo
 - ☒ New web designs
 - ☐ Link to courseware
 - ☒ Get URL for future conference and workshops
 - ☒ Access to OpenCV.org and website changes
 - ☒ Complete signatures for the federal non-profit filings
- Victor
 - ☐ Permission to take a board seat

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2018-06-27

Agenda

- OSVF
- OSCON

Minutes

- OSVF
 - Bylaws and foundation documents are signed and with Adler and Colvin
 - Raising preliminary funds (about \$20K committed) for formation expenses
 - Initial board: Gary, Vladlen, Achin, Vadim, Qian-Yi and German
 - Then each project, OpenCV, Open3D and CARLA will have their own technical boards to set development
 - Logo ideas: Third eye (but camera?) but work in Kaniza triangle (but in 3D?) and neon color spreading
 - [Third eye theme](#) ... oh, some symbolism that ultimately we are creating code for perception, not vision ... perception is what the mind makes of sensory stimuli. Also, CARLA is somewhat fabricating the mind's eye vision
 - [Illusory triangle](#) Because perception is much more than vision -- we impose (causal) models on the world and the eventual smart machines must do so too.
 - [But lift the triangle to illusory 3D](#) because, we are dealing with a 3D world ... and also Open3D!
- OSCON
 - We are going to give a course at OSCON
 - [Fun in detail with OpenCV](#)

To Dos

- Gary

- o ☒ Fund raise -- probably need more to pay legal fees and pay for OSCON prior to OSVF becoming final

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2018-06-06

Agenda

- OSVF
- OSCON

Minutes

- OSVF
 - Domain names secured
 - Legal meeting is all a go,
 - Have to re-read final docs including the potential to do commercial/non-profit fellow travelers
 - Discussed how we can have for profits working with the non-profit. Each will be case by case with the legal firm
 - The non-profit can generate IP that can be licensed to a for profit
 - Doing certifications probably work, but have to be checked case by case
 - Have a (major) legal firm that will represent OSVF pro-bono
 - Have/will discuss on getting courseware going, Satya, Shiqiyi etc
 - Met with Achin, he will help out as kind of a COO with Vladlen as kind of a CTO
 - Achin has a lot of experience putting on conferences/workshops and a lot of connections with people who know how to get this done.
 - Gary has ideas on what would differentiate this from other gatherings
 - Have Sofia, who wants to help out, also good at organizing events
 - We've been developing a bunch of leads for getting in real funding
 - Executive search
 - I have one lead on a CEO and am
 - Am considering, funding dependent, on engaging an executive search committee
 - OSVF will cover OpenCV, DNN (curated optimized deepnets) Open3D and ...
 - On Thursday, meeting with German and Vladlen about expanding OSVF further ... might be great synergy
- OSCON
 - We signed up for a tutorial at OSCON on July 17.
 - Gary is head's down at Array on product, and on foundation work
 - Vadim is focused on getting out OpenCV 4.0
 - Edgar is moving to London for some months to work with a group there
 - In summary, Gary can do an overview, but no time to prepare a tutorial, there others are out
 - Seeing if Satya can prepare the tutorial, if not, we may have to cancel, hope not

To Dos

- Gary
 - ☒ Contact Satya on tutorial
 - ☒ Chase down CEO lead -- meet next month
 - ☒ Finish reading the legal docs
 - ☒ Thursday expansion meeting
 - ☐ ~~Return the signed forms to the lawyers for filing.~~ *Deferred to next week*

2018-05-23

- osvf
- OpenCV 4.0

- osvf
 - meeting with lawyers tomorrow
 - [Staya](#) working on courseware
 - workshops conference
 - Stork involved?
 - Operating overseas?
 - free software foundation
 - free software foundation Europe
 - free software foundation Italy
 - Wikimedia
 - Separate in countries
 - Possible model is [intelliCAD](#)
 - Look into the [Transnational Giving Europe](#)
 - Coupling OpenCVlabs with osvf etc
- OpenCV4
 - DNN, ONNX support
 - QR reader, Halide
 - External interface will mostly remain the same
 - Works with [OpenVino framework](#)
 - opencv openVX DNN
 - IR Intermediate Representation
 - Face, pedestrian, license plate, age, gesture

- Gary
 - ☒ Have the meeting with Adler & Colvin
 - ☒ Ask about operating internationally
 - ☒ Boundary of non-profit for profit and relationship (non-profit owning stock in for profit?)
 - ☒ Update Shiqi Yu

- Have many ideas for what the org can do, but first, the usual things
- OpenCV 4.0 will be out this summer, might fold in the same methodology with Open3D later

To Dos

- Gary
 - ☐ Talk to VCs about finding a business leader, possibly shared with OpenVlabs
 - ☒ Talk with Satya

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2018-05-02

Agenda

- Non-profit refile
- Future licensing
- OpenCVLabs

Minutes

- Non-profit refile
 - I've given probably 40-50 pages of docs to the firm of [Adler & Colvin](#) specializing in non-profits
 - Since they are familiar with the original material, it should only take a week or two
 - California re-formation and Federal formation
 - After filing, a very major law firm will represent us pro-bono
 - Courseware
 - Consider [ideas from Kubernetes](#)
 - Certification
 - Consider example from SwRI
 - [Oil lubricant certification](#)
 - [Gasoline engine oil engine testing](#)
 - [Fuel certification](#)
 - But in computer vision
 - Develop Standards
 - *OpenCV Inside, OpenCV Certified*
 - Camera and Algorithm
 - Quality & Performance
 - Accuracy of claims
 - AR, VR, SLAM, Recognition, Robotic Perception, Tracking, Detection ...
 - Certification of people
 - Take [example from Kubernetes Administrator](#)
 - Or for corporate [\(taken from Kubernetes Providers\)](#)
 - Funding
 - Corporate Grants
 - In China, in US
 - Government Grants
 - In China, in US, ... in Europe

Agenda

- Release updates
- Legal update
- Future directions

Minutes

- Release updates
- Legal update
- Future directions
 - Possible to get into smart camera + courseware
 - [Thousand Talents Program](#)
 - [Foreign academician of Chinese Academy of Engineering](#)

To Dos

- Name
 - ☐ todo

Notes:

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2018-03-28

Agenda

- OpenCV 4
- Foundation ideas, Vadim visit to China
- Linux foundation, deep learning

Minutes

- Work started on OpenCV 4
 - C++ 11
 - Halide
 - More deep nets
- Shenzhen visit, Chinese branch of OpenCV
 - Education - courseware
 - Deep learning, vision
 - Work on OpenCV -- best students china summer of code
 - China summer of code
 - Robot arms
 - Education arm
 - Cheap real arm
 - Raspberry PI with smarts
- [Deep learning Linux foundation](#)
 - Consider if it's worth associating

To Dos

- Name
 - ☐ Vadim send org ideas from trip
 - ☐ Gary finish up legal work

Notes:

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2018-03-14

Agenda

- Just touch base
- Contractors

Minutes

- Google helping squash security issues ... these should all be upstream/incorporated by now
- Trying to help kickstart another group of contractors
- Future evolution of OpenCV [here: github evolution](#)
 - This will form the pool of properly formatted future GSoC ideas as well as a list to be vetted and implemented
- Vadim on week 1 of vacation

To Dos

- Gary
 - [^] Finish reading all legal docs and contact lawyers

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2018-03-07

Agenda

- Org filings
- Posting wishes for OpenCV it's evolution

Minutes

- Org ideas
 - Competency centers (logo)
 - Network of people who know, system integrator, supplier ...
 - Computer vision center in Barcelona for example
 - Set up a foundation meta group (such as drone vision code) area as done by the [Linux Foundation](#)
 - Could be medical, robotic, drone, AR, VR, Maps, Pictures and film ...
- Release
 - OpenCV 3.4.1 release is out
- OpenCV Evolution

- New ideas for what should be in OpenCV that could also feed, say, into [GSoC OpenCV Ideas](#) will go onto [github evolution](#)
- 2 weeks vacation, national holliday ... Vadim

To Dos

- Gary
 - [^] Finish reading all legal docs and contact lawyers
- Edgar
 - ☐ Vision Center in Barcellona contact as competence center
- All
 - ☐ Send in org ideas or comment on the formation docs I sent around

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2018-02-28

Agenda

- Org docs
- OSCON
- OpenCV 4

Minutes

- Org docs
 - Gary sent around to the nominal future board a document about amending and restating OpenCV.org
 - Once Gary gathers feedback, this will go to Adler & Colvin (legal firm that specializes in non-profit filings) to file federally
 - Key points:
 - Org will host the code, programmers and offer support packages/instant bug fix for the library
 - Org will advance the state of vision via developing algorithms and/or more useful APIs
 - Org will run gatherings: workshops, conferences, hackathons, educational events
 - Org may offer courseware
 - Org may offer smart camera HW/SW kits
 - For education
 - For contests (First Robotics)
 - For public demonstrations
 - For art
 - Can host datasets for contests, reference, challenges/awards
 - Possibly labeling tools
 - Will be able to offer certification services for cameras, software or combinations
- OSCON
 - We've been asked to do a 3 hour tutorial at OSCON 2018. This is in preparation with Anna Petrovicheva of Xperience.ai
- OpenCV 4.0
 - Out this summer, much more seamless support for deep nets.
 - To set future direction of the library, we are going to

- use something like the [swift evolution list](#)
- suggested [opencv evolution format here](#)
- adding in some from [GSoC ideas format](#)
- Consider adding some frameworks: Object detection: take frame by frame, rectangles w/confidence on output

To Dos

- Gary
 - ☐ Org setup -- too vague, break it down above
- Vadim
 - ☒ Ask Maxime (spelling?) how to add images to the OpenCV wiki/website. Now that it is GIT based, you have to link to an image somewhere, can be a specialized GIT repository for this.

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2018-02-21

Agenda

- Go over federal non-profit org
- OSCON
- Brainstorm on new focuses
- OpenCV release and 4.0

Minutes

- Org filing
- New release
 - 3.4.1 Release end of week
 - Support for quantized models in DNN
 - Face detection module is now 2.7M, works way better than Haar
 - Many patches and fixes
 - Likely last release of 3 series, work starts on 4.0 version
 - Support for 3.4 will not stop, it will be supported for some years
 - 4.0
 - Sometime mid-July.
 - Will have wiki linked to GIT feature "evolution" proposals
 - That people or corporations can fund
 - And will form a more GIT linked feature list for future GSoC Ideas list
 - Submit feature request to GIT bug tracker request
 - Will be on wiki -- all a github repository
 - Ask Maxime where Wiki images should go
 - HighGUI can we combine 2D and 3D, camera trajectories (uses VIS right now)
 - How to render fonts ... text rendering ... use gtk or other
 - Replace QT functionality, write real buttons
 - Several proposals to put this together
 - Will put it on the new "evolution" issues page to come.

- OSCON
 - Beta or Alpha 4.0 release will be out
 - Tutorial -- intro future of opencv, new org, new feature request ways to join/help
 - DNN -- face tracker, other (how to squash a net??)
 - Python interface use
 - Some examples that support ... interactive art (face, body tracking) or robotics
- New focuses
 - Robotics
 - Support First Robotics with a basic recognition kit (2D, 3D ...)
 - Courseware kit?
 - Arts
 - Interaction

To Dos

- Gary
 - ☐ Org setup
 - ☒ Get paypal data to accountant
- Vadim
 - ☐ Ask Maxime (spelling?) how to add images to the OpenCV wiki/website. Now that it is GIT based, you have to link to an image somewhere, can be a specialized GIT repository for this.

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2018-02-14

Agenda

- **Happy Valentines Day!**
- New meeting time, **9:30am Wednesday California time**
- GSoC
- Idea list
- Org structure

Minutes

- GSoC
 - Didn't get in this year ... we suppose the reasons (in order):
 1. Our ideas list was not [compliant](#) ... no real excuses but:
 - We are an older org, so only one grad student on our board, the rest are all working full-time professionals and/or running companies etc and we just picked up on the email warning about Google being serious about this item this year too late.
 - As with most of these items, one problem is that we've been in for many years and were just following patterns that had worked, but some things have changed, the emphasis on this is one, another rating point in the summer and so on.
 - *Corrective*: is simply below -- make the list compliant

- 2. We were late in the 2017 mid-summer student rating, again, no excuse, but we were in the pattern from the previous year where this didn't exist and several of us just happened to be traveling.
 - *Corrective:* (1) Is to make sure this doesn't happen, (2) I'm trying to get more money into the org so that we can hire some full time staff who can keep up with the greater demands on the org.
- 3. We've been in for years -- they might have also decided we needed a kick/or to just rotate us out
 - *Corrective:* Just apply again next year.
- **Idea List**
 - Have to get compliant with [Defining a Project Ideas list from the Mentor Guide](#)
- **Org Structure**
 - Traffic is up, OpenCV 4.0 is coming out this summer, we have major new content to digest from opencv_contrib and particularly incorporation of the [deep neural network module DNN](#).
 - It's time to take the running of the org up a level:
 1. Refile the federal non-profit status, include hosting standards such as
 - Certifying camera/smart camera modules
 - Image datasets standards
 - Selling or partnering for education kits
 2. Recruiting or changing over to a more professional business and technical board
 3. Changing law firms to a bigger/scarier law firm that has offered to handle this pro-bono
 4. Recruiting a business manager and probably admin
 5. There is promised funding for some of this, need to convert promises to checks
 6. As a stretch goal, maybe run OpenCV Summer of Code at a small level this year:
 - DNN tutorial/ONNX to work well with ingesting major deep platform networks.
 - python
 - highGUI
- OSCON
 - Asked for a 3 hour tutorial ... Need to see if we can find someone to help or turn it down. Would like to say "yes"
- Open3D
 - Will be meeting with [vladlen koltun](#) about Open3D on Feb 15th

- Gary
 - [~] Org setup *started...*
- Vadim
 - ☒ See if we have people to run the OSCON tutorial

2018-02-06

- GSoC
- Halide

- Open3D

Minutes

- GSoC
 - HighGUI person
 - tiny-dnn policy
- Halide plans/schedule
- Open3D
 - Will be meeting with [vladlen koltun](#) about Open3D on Feb 15th

To Dos

- Gary
 - ☐ Org setup
 - [-] Ask Yann about students for ONNX task
- Vadim
 - [-] Send name of contact person

[illegible]

2018-01-29

Agenda

- Change meeting times
- DNN

Minutes

- New meeting time, 9:30am Wednesday California time
- DNN
 - Backend (fusion, convolution)
 - C++
 - SSE, Neon ...
 - API is general
 - OpenCL
 - Halide (could generate CUDA, OpenCL or anything)
 - AMD graphics
- DNN work
- Halide ongoing

To Dos

- Gary
 - ☐ Org setup
 - ☐ Ask Yann about students for ONNX task
- Vadim
 - ☐ Send name of contact person


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2018-01-21

Agenda

- GSoC Projects, mentors

Minutes

- Now applied to GSoC  OpenCV GSoC2018
- GSoC Projects, mentors
 - tiny-dnn and DNN
 - How to resolve DNN and tiny-dnn
 - DNN runs inference
 - ONNX
 - Integration with [TVM](#) ... relationship to Halide
 - [Good timings](#)
- Opencv 4.0
 - DNN integrated into core as a central function
 - Somethings move to contrib
- Geometric vision differences with deep learning
 - Deep learning
- DNN runs inference
 - Will stay in OpenCV
 - Will not have any dependencies
 - Can add extensions ... needs NVidia
 - 4 backends:
 - C++ +intrinsic optimizations;
 - OpenCL;
 - Halide;
 - DL Inference engine
 - Can we just open to different backends to allow extensions to NVidia, ARM?
 - [TVM](#)?
 - But whole LLVM is in it
- deep ideas:
 - it would be nice to have self-contained ONNX importer (using libprotobuf?).
 - some network compression algorithms, probably including quantization and factorization-based methods (where compression algorithm itself can be implemented as pytorch or Caffe2 or TF script, but then OpenCV probably needs to be extended to parse such compressed networks).
 - we would also be interested in adding new layers that would help to support new interesting topologies. In particular, it would be cool to have supported some compact networks for text detection and for background segmentation, maybe shadow elimination, tracking etc. or whatever Yann considers to be worthy.

To Dos

- Gary
 - ☐ Org setup

- [illegible]

- Gary
 - ☐ Org setup
 - ☐ Pay
 - ☐ Ask Yann about students for ONNX task
- Vadim
 - ☒ Send Edgar OpenCV slides for U. Barcelona presentation

Notes

[illegible]

2017-01-08

Agenda

- GSoC 2018
- Org ideas

Minutes

- GSoC
 - Categories
 - Python
 - highGUI improvements
 - C to C++ translator
 - SLAM
 - Deep model curation/optimization
 - Better TensorFlow, Pytorch integration
- Org
 - Fully funded non-profit
 - Business basis
 - Image analysis
 - Seminars, workshops
 - Education, documentation
- Gary has the flu despite the vaccine ... and a headache.

To Dos

- Gary
 - ☒ Set up ideas page
 - ☒ Set up 2018 Notes
 - ☒ Apply for GSoc 2018
 - ☐ Org setup
 - ☐ Pay

[[Meeting_notes]]