Lahore University of Management Sciences

EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 1: Introduction to AI, Machine Learning, and Deep Learning
This assignment will guide you to relevant reference material related to the content covered in Topic 1: Introduction to AI, Machine Learning, and Deep Learning. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Machine Learning	**PK: Chapter 1**
Introduction to AI, Machine Learning, and Deep Learning	**RC** and **ET**
Repeatability vs Reproducibility	**JS** and **JI**
A short history of Artificial Intelligence	**KM: Chapter 1**

References

- **(PK)** Phil Kim, **MATLAB deep learning – With Machine Learning, Neural Networks and Artificial Intelligence**, Springer, (2017). [Ebook]
- **(RC)** Rene Y. Choi et al, **Introduction to Machine Learning, Neural Networks, and Deep Learning**, Translational Vision Science and Technology, (2020). [Weblink]
- **(JS)** Jeffrey R. Stevens, **Replicability and Reproducibility in Comparative Psychology**, Frontiers in Psychology, (2017). [Weblink]
- **(JI)** John P. A. Ioannidis, **Why Most Published Research Findings Are False**, PloS Medicine, (2005). [Weblink]
- **(ET)** Evan Touger, **What's the Difference Between Artificial Intelligence (AI), Machine Learning, and Deep Learning?**, Strachey Lecture, Oxford, (2017). [Weblink]
- **(KM)** Klaus Mainzer, **Artificial intelligence – When do machines take over?**, Springer Nature, (2019). [Weblink]

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Lahore University of Management Sciences

EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 2: Gradient-based Optimization Methods
This assignment will guide you to relevant reference material related to the content covered in Lecture 2: Gradient-based Optimization Methods. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Batch Gradient Descent, SGD, Minibatch Gradient Descent	**PK: Chapter 2 (pages 47 – 58)**
Overview of Gradient Descent Methods	**SR: Sections 1 – 3**
Stochastic Gradient Descent	**NK: Chapter 8, NB: Chapter 2**
Stochastic Gradient Descent with Nesterov and Momentum	**IS: Section 2**
Gradient Descent Algorithm and Variants	**ID, NB: Chapter 4**
Intro to optimization in Deep Learning: Gradient Descent	**AK1**
Intro to optimization in Deep Learning: Momentum and Adam	**AK2**
Optimization for Deep Learning	**GF: Chapter 8**
Impact of Minibatch size on the Variance of Gradients	**XQ:** (only focus on the take-home message)
Learning Rate Policy – Optimizer pairs	**STB1: Section 2** and **Table 1** **STB2: Chapter 2**

References

- **(PK)** Phil Kim, **MATLAB deep learning – With Machine Learning, Neural Networks and Artificial Intelligence**, Springer, (2017). [Ebook]
- **(GF)** Ian Goodfellow, Yoshua Bengio, Aaron Courville, **Deep Learning**, MIT Press, (2016). [Ebook]
- **(SR)** Sebastian Ruder, **An overview of gradient descent optimization algorithms**, arXiv, (2016). [Weblink]
- **(IS)** Ilya Sutskever, James Martens, George Dahl, and Geoffrey Hinton, **On the importance of initialization and momentum in deep learning**, ICML, (2013). [Weblink]
- **(NK)** Nikhil Ketkar, **Deep Learning with Python: A hands-on introduction**, APress, (2017). [Ebook]
- **(NB)** Nikhil Buduma and Nicholas Lacascio, **Fundamentals of Deep Learning: Designing next-generation machine intelligence algorithms**, O'Reilly Media, Inc., (2017). [Weblink]
- **(ID)** Imad Dabbura, **Gradient Descent Algorithm and Its Variants**, Towards Data Science, (2017). [Weblink]
- **(XQ)** Xin Qian and Diego Klabjan, **The Impact of the Mini-batch Size on the Variance of Gradients in Stochastic Gradient Descent**, arXiv, (2020). [Weblink]
- **(AK1)** Ayoosh Kathuria, **Intro to optimization in deep learning: Gradient Descent**, PaperspaceBlog, (2018). [Weblink]
- **(AK2)** Ayoosh Kathuria, **Intro to optimization in deep learning: Momentum, RMSProp, and Adam**, PaperspaceBlog, (2018). [Weblink]
- **(STB1)** Syed Talha Bukhari and Hassan Mohy-ud-Din, **A systematic evaluation of learning rate policies in training CNNs for brain tumor segmentation**, Physics in Medicine and Biology, 66(10), (2021). [Weblink] *Also available @ LMS under Resources/Syllabus, Ebooks, etc./*
- **(STB2)** Syed Talha Bukhari, **Impact of Learning Rate Policies on Training a U-Net for Brain Tumor Segmentation**, MS Thesis, LUMS, (2020). *Available @ LMS under Resources/Syllabus, Ebooks, etc./*

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EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 3: Deep Learning – A Modern Learning Paradigm

This assignment will guide you to relevant reference material related to the content covered in Lecture 3: Deep Learning – A Modern Learning Paradigm. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Perceptron model, Sigmoid neuron, Deep Neural Network, Backpropagation, MNIST problem	**MN: Chapters 1 and 2, PM: Chapters 4, TZ: Chapters 10 and 11**
Multilayered Neural Network, Backpropagation	**PK: Chapters 2 and 3, PM: Chapters 4**
Feed-forward Deep Neural Network	**NK: Chapter 3, PM: Chapters 4**
Neural Network, Backpropagation	**NB: Chapters 1 and 2, PM: Chapters 4**
Deep Learning – A Mathematical Introduction	**CH**
Introduction to Deep Learning	**LS**
Review of Deep Learning	**LA**
Introduction to Neural Networks	**CA: Chapter 1, PM: Chapters 4**
Introduction to Deep Neural Networks	**FC: Part 1, Chapters 1, 2, and 3**
Automatic Differentiation in Machine Learning: A Survey	**AB**

References

- **(MN)** Michael Nielsen, **Neural Networks and Deep Learning**, Determination press, (2015). [Ebook]
- **(PK)** Phil Kim, **MATLAB deep learning – With Machine Learning, Neural Networks and Artificial Intelligence**, Springer, (2017). [Ebook]
- **(NK)** Nikhil Ketkar, **Deep Learning with Python: A hands-on introduction**, APress, (2017). [Ebook]
- **(NB)** Nikhil Buduma and Nicholas Lacascio, **Fundamentals of Deep Learning: Designing next-generation machine intelligence algorithms**, O'Reilly Media, Inc., (2017).
- **(CH)** Catherine F. Highamy and Desmond J. Highamz, **Deep Learning: An Introduction for Applied Mathematicians**, SIAM Review, (2019). [Weblink]
- **(LS)** Lihi Shiloh-Perl and Raja Giryes, **Introduction to deep learning**, arXiv, (2020). [Weblink]
- **(LA)** Laith Alzubaidi et al, **Review of deep learning: concepts, CNN architectures, challenges, applications, future directions**, Journal of Big Data, (2021). [Weblink]
- **(CA)** Charu C. Aggarwal, **Neural Networks and Deep Learning**, Springer International Publishing, (2018). [Ebook]
- **(FC)** Francois Chollet, **Deep Learning with Python**, Manning Publications, (2018).
- **(TZ)** Teik T. Teoh and Zheng Rong, **Artificial Intelligence with Python**, Springer International Publishing, (2022). [Ebook]
- **(PM)** Pradeepta Mishra, **PyTorch Recipes**, Springer International Publishing, (2022). [Ebook]
- **(AB)** Atılım Güneş Baydin et al., **Automatic differentiation in machine learning: a survey**, Journal of Machine Learning Research, 18, Pages 1 – 43, (2018). [Weblink]

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Lahore University of Management Sciences

EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 4: Aspects of Deep Neural Network
This assignment will guide you to relevant reference material related to the content covered in Lecture 4: Aspects of Deep Neural Network. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Activation Functions	MN: Chapter 3, NK: Chapter 3, NB: Chapter 1, CA: Chapter 3, AZ: Chapter 4, and SH
Initialization Schemes	MN: Chapter 3, AZ: Chapter 4, SY, KK, KH, XG, and SK
Quality of Fitting: Underfitting and Overfitting, Bias-Variance Decomposition, Bias-Variance Trade-off, etc.	PK: Chapter 5, CA: Chapter 1, AZ: Chapter 4, DD, BN, and DC
Ensuring Reasonable Fitting: Regularization, Augmentation, Early Stopping, etc.	PK: Chapter 5, CA: Chapter 4, FC: Chapter 4, AZ: Chapter 4, GF: Chapter 7, and SJ
Batch Size	NSK, SJZ, and SLS

References

- **(MN)** Michael Nielsen, **Neural Networks and Deep Learning**, Determination press, (2015). [Ebook]
- **(PK)** Phil Kim, **MATLAB deep learning – With Machine Learning, Neural Networks and Artificial Intelligence**, Springer, (2017). [Ebook]
- **(NK)** Nikhil Ketkar, **Deep Learning with Python: A hands-on introduction**, APress, (2017). [Ebook]
- **(NB)** Nikhil Buduma and Nicholas Lacascio, **Fundamentals of Deep Learning: Designing next-generation machine intelligence algorithms**, O'Reilly Media, Inc., (2017).
- **(CA)** Charu C. Aggarwal, **Neural Networks and Deep Learning**, Springer International Publishing, (2018). [Ebook]
- **(FC)** Francois Chollet, **Deep Learning with Python**, Manning Publications, (2018).
- **(GF)** Ian Goodfellow, Yoshua Bengio, Aaron Courville, **Deep Learning**, MIT Press, (2016). [Ebook]
- **(AZ)** Aston Zhang, Zachary C. Lipton, Mu Li, and Alexander J. Smola, **Dive into Deep Learning**, arXiv, (2021). [Ebook]
- **(SH)** Soufiane Hayou, Arnaud Doucet, and Judith Rousseau, **On the Impact of the Activation Function on Deep Neural Networks Training**, arXiv, (2019). [Weblink]
- **(SY)** Saurabh Yadav, **Weight Initialization Techniques in Neural Networks**, Towards Data Science, (2018). [Weblink]
- **(KK)** Kian Katanforoosh and Daniel Kunin, **Initializing neural networks**, deeplearning.ai, (2019). [Weblink]
- **(KH)** Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun, **Delving Deep into Rectifiers: Surpassing Human-Level Performance on ImageNet Classification**, ICCV, (2015). [Weblink]
- **(XG)** Xavier Glorot and Yoshua Bengio, **Understanding the difficulty of training deep feedforward neural networks**, AISTATS, (2010). [Weblink]
- **(SK)** Siddharth Krishna Kumar, **On weight initialization in deep neural networks**, arXiv, (2017). [Weblink]
- **(SJ)** Shubham Jain, **An Overview of Regularization Techniques in Deep Learning (with Python code)**, Analytics Vidhya, (2018). [Weblink]
- **(DD)** David Dalpiaz, **Chapter 8: Bias–Variance Tradeoff**, R for Statistical Learning, (2020). [Weblink]
- **(DC)** DataCadamia, **Bias-variance trade-off (between overfitting and underfitting)**. [Weblink]
- **(BN)** Brady Neal, Sarthak Mittal, Aristide Baratin, Vinayak Tantia, Matthew Scicluna, Simon Lacoste-Julien, and Ioannis Mitliagkas, **A Modern Take on the Bias-Variance Tradeoff in Neural Networks**, arXiv, (2019). [Weblink]
- **(NSK)** Nitish Shirish Keskar, Dheevatsa Mudigere, Jorge Nocedal, Mikhail Smelyanskiy, and Ping Tak Peter Tang, **On large-batch training for deep learning: Generalization gap and sharp minima**, ICLR, (2017). [Weblink]
- **(SJZ)** Stanislaw Jastrzebski, Zachary Kenton, Devansh Arpit, Nicolas Ballas, Asja Fischer, Yoshua Bengio, and Amos Storkey, **Three Factors Influencing Minima in SGD**, arXiv, (2018). [Weblink]
- **(SLS)** Samuel L. Smith, Pieter-Jan Kindermans, Chris Ying, and Quoc V. Le, **Don't decay the learning rate, increase the batch size**, ICLR, (2018). [Weblink]

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Lahore University of Management Sciences

EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 5: Convolutional Neural Networks

This assignment will guide you to relevant reference material related to the content covered in Lecture 5: Convolutional Neural Networks. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Activation Functions	**MN: Chapter 3, NK: Chapter 3, NB: Chapter 1, CA: Chapter 3, AZ: Chapter 4, and SH**
Initialization Schemes	**MN: Chapter 3, AZ: Chapter 4, SY, KK, KH, XG, and SK**
Quality of Fitting: Underfitting and Overfitting, Bias-Variance Decomposition, Bias-Variance Trade-off, etc.	**PK: Chapter 5, CA: Chapter 1, AZ: Chapter 4, DD, BN, and DC**
Ensuring Reasonable Fitting: Regularization, Augmentation, Early Stopping, etc.	**PK: Chapter 5, CA: Chapter 4, FC: Chapter 4, AZ: Chapter 4, GF: Chapter 7, and SJ**
Batch Size	**NSK, SJZ, and SLS**
ZerO Initialization (latest update)	**JZ**

References

- **(MN)** Michael Nielsen, **Neural Networks and Deep Learning**, Determination press, (2015). [Ebook]
- **(PK)** Phil Kim, **MATLAB deep learning – With Machine Learning, Neural Networks and Artificial Intelligence**, Springer, (2017). [Ebook]
- **(NK)** Nikhil Ketkar, **Deep Learning with Python: A hands-on introduction**, APress, (2017). [Ebook]
- **(NB)** Nikhil Buduma and Nicholas Lacascio, **Fundamentals of Deep Learning: Designing next-generation machine intelligence algorithms**, O'Reilly Media, Inc., (2017).
- **(CA)** Charu C. Aggarwal, **Neural Networks and Deep Learning**, Springer International Publishing, (2018). [Ebook]
- **(FC)** Francois Chollet, **Deep Learning with Python**, Manning Publications, (2018).
- **(GF)** Ian Goodfellow, Yoshua Bengio, Aaron Courville, **Deep Learning**, MIT Press, (2016). [Ebook]
- **(AZ)** Aston Zhang, Zachary C. Lipton, Mu Li, and Alexander J. Smola, **Dive into Deep Learning**, arXiv, (2021). [Ebook]
- **(SH)** Soufiane Hayou, Arnaud Doucet, and Judith Rousseau, **On the Impact of the Activation Function on Deep Neural Networks Training**, arXiv, (2019). [Weblink]
- **(SY)** Saurabh Yadav, **Weight Initialization Techniques in Neural Networks**, Towards Data Science, (2018). [Weblink]
- **(KK)** Kian Katanforoosh and Daniel Kunin, **Initializing neural networks**, deeplearning.ai, (2019). [Weblink]
- **(KH)** Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun, **Delving Deep into Rectifiers: Surpassing Human-Level Performance on ImageNet Classification**, ICCV, (2015). [Weblink]
- **(XG)** Xavier Glorot and Yoshua Bengio, **Understanding the difficulty of training deep feedforward neural networks**, AISTATS, (2010). [Weblink]
- **(SK)** Siddharth Krishna Kumar, **On weight initialization in deep neural networks**, arXiv, (2017). [Weblink]
- **(SJ)** Shubham Jain, **An Overview of Regularization Techniques in Deep Learning (with Python code)**, Analytics Vidhya, (2018). [Weblink]
- **(DD)** David Dalpiaz, **Chapter 8: Bias–Variance Tradeoff**, R for Statistical Learning, (2020). [Weblink]
- **(DC)** DataCadamia, **Bias-variance trade-off (between overfitting and underfitting)**. [Weblink]
- **(BN)** Brady Neal, Sarthak Mittal, Aristide Baratin, Vinayak Tantia, Matthew Scicluna, Simon Lacoste-Julien, and Ioannis Mitliagkas, **A Modern Take on the Bias-Variance Tradeoff in Neural Networks**, arXiv, (2019). [Weblink]
- **(NSK)** Nitish Shirish Keskar, Dheevatsa Mudigere, Jorge Nocedal, Mikhail Smelyanskiy, and Ping Tak Peter Tang, **On large-batch training for deep learning: Generalization gap and sharp minima**, ICLR, (2017). [Weblink]
- **(SJZ)** Stanislaw Jastrzebski, Zachary Kenton, Devansh Arpit, Nicolas Ballas, Asja Fischer, Yoshua Bengio, and Amos Storkey, **Three Factors Influencing Minima in SGD**, arXiv, (2018). [Weblink]
- **(SLS)** Samuel L. Smith, Pieter-Jan Kindermans, Chris Ying, and Quoc V. Le, **Don't decay the learning rate, increase the batch size**, ICLR, (2018). [Weblink]
- **(JZ)** Jiawei Zhao, Florian Tobias Schaefer, and Anima Anandkumar, **ZerO Initialization: Initializing Neural Networks with only Zeros and Ones**, Openreview.net, (2022). [Weblink]

Lahore University of Management Sciences

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Lahore University of Management Sciences

EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 6: Autoencoders	
This assignment will guide you to relevant reference material related to the content covered in Lecture 6: Autoencoders. Reference material can be accessed/downloaded by clicking the link next to citation.	
Topic	**Book Section/Research Papers/etc.**
Autoencoder, Denoising Autoencoder, Sparse Autoencoder, Convolutional Autoencoder	**NB: Chapter 6, CA: Chapter 2.6, GF: Chapter 14**
Variational Autoencoder	**CA: Chapter 8.5.2**
Undercomplete Autoencoder, Contractive Autoencoder, Manifolds with Autoencoder, Applications of Autoencoders	**FC: Chapter 8.4, CD** **GF: Chapter 14**
Aspects of Autoencoders	**GF: Chapter 14**
Introducing VAE to High School Students	**ZL**
Contractive Autoencoder	**SR**
Loss function for VAE	**SO**
Stacked Denoising Autoencoder	**PV**

References

- **(NB)** Nikhil Buduma and Nicholas Lacascio, **Fundamentals of Deep Learning: Designing next-generation machine intelligence algorithms**, O'Reilly Media, Inc., (2017).
- **(CA)** Charu C. Aggarwal, **Neural Networks and Deep Learning**, Springer International Publishing, (2018). [Ebook]
- **(FC)** Francois Chollet, **Deep Learning with Python**, Manning Publications, (2018).
- **(GF)** Ian Goodfellow, Yoshua Bengio, Aaron Courville, **Deep Learning**, MIT Press, (2016). [Ebook]
- **(BN)** Brady Neal, Sarthak Mittal, Aristide Baratin, Vinayak Tantia, Matthew Scicluna, Simon Lacoste-Julien, and Ioannis Mitliagkas, **A Modern Take on the Bias-Variance Tradeoff in Neural Networks**, arXiv, (2019). [Weblink]
- **(ZL)** Zhuoyue Lyu, Safinah Ali, and Cynthia Breazeal, **Introducing Variational Autoencoders to High School Students**, Proceedings of the AAAI Conference on Artificial Intelligence, (2022). [Weblink]
- **(CD)** Carl Doersch, **Tutorial on Variational Autoencoders to High School Students**, arXiv, (2016). [Weblink]
- **(SO)** Stephen Odaibo, **Tutorial: Deriving the Standard Variational Autoencoder (VAE) Loss Function**, arXiv, (2019). [Weblink]
- **(SR)** Salah Rifai, Pascal Vincen, Xavier Muller, Xavier Glorot, and Yoshua Bengio, **Contractive Autoencoders: Explicit Invariance During Feature Extraction**, arXiv, (2019). [Weblink]
- **(PV)** Pascal Vincent, Hugo Larochelle, Isabelle Lajoie, Yoshua Bengio, and Pierre-Antoine Manzagol, **Stacked Denoising Autoencoders: Learning Useful Representations in a Deep Network with a Local Denoising Criterion**, Journal of Machine Learning Research, (2010). [Weblink]

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EE 414/517, CS 437/5317: Deep Learning

Fall 2023

Reading Assignment # 7: Generative Adversarial Networks

This assignment will guide you to relevant reference material related to the content covered in Lecture 7: Generative Adversarial Networks. Reference material can be accessed/downloaded by clicking the link next to citation.

Topic	Book Section/Research Papers/etc.
Generative Deep Learning	FC: Chapter 8, GF: Chapter 20,
Generative Adversarial Networks	CA: Chapter 10.4, FC: Chapter 8.5, GF: Chapter 20.9, 20.10,
Tutorials and Reviews	JW, AC, AA, AB, IG2
Loss Functions	DE
Seminal paper on GANs	IG1, IG2
GANs for medical image analysis	SK
Training GAN with Limited Data	TK, HT
A U-Net Based Discriminator for GAN	ES
Mode Collapse	DB
Conditional GAN	MM

References

- **(CA)** Charu C. Aggarwal, **Neural Networks and Deep Learning**, Springer International Publishing, (2018). [Ebook]
- **(FC)** Francois Chollet, **Deep Learning with Python**, Manning Publications, (2018).
- **(GF)** Ian Goodfellow, Yoshua Bengio, Aaron Courville, **Deep Learning**, MIT Press, (2016). [Ebook]
- **(JW)** Jelmer M. Wolterink, Anirban Mukhopadhyay, Tim Leiner, Thomas J. Vogl, Andreas M. Bucher, and Ivana Išgum, **Generative Adversarial Networks: A Primer for Radiologists**, Radiographics, (2021). [Weblink]
- **(AC)** Antonia Creswell, Tom White, Vincent Dumoulin, Kai Arulkumaran, Biswa Sengupta, and Anil A. Bharath, **Generative Adversarial Networks An overview**, IEEE signal processing magazine, (2018). [Weblink]
- **(SK)** Salome Kazeminia, Christoph Baur, Arjan Kuijper, Bram van Ginneken, Nassir Navab, Shadi Albarqouni, and Anirban Mukhopadhyay, **GANs for medical image analysis**, Artificial Intelligence in Medicine, (2020). [Weblink]
- **(TK)** Tero Karras, Miika Aittala, Janne Hellsten, Samuli Laine, Jaakko Lehtinen, and Timo Aila, **Training Generative Adversarial Networks with Limited Data**, Advances in Neural Information Processing Systems, (2020). [Weblink]
- **(HT)** Hung-Yu Tseng, Lu Jiang, Ce Liu, Ming-Hsuan Yang, and Weilong Yang, **Regularizing Generative Adversarial Networks under Limited Data**, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, (2021). [Weblink]
- **(ES)** Edgar Schonfeld, Bernt Schiele, and Anna Khoreva, **A U-Net Based Discriminator for Generative Adversarial Networks**, Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition, (2020). [Weblink]
- **(DB)** David Bau, Jun-Yan Zhu, Jonas Wulff, and William Peebles, **Seeing What a GAN Cannot Generate**, Proceedings of the IEEE/CVF International Conference on Computer Vision, (2019). [Weblink]
- **(AA)** Alankrita Aggarwal, Mamta Mittal, and Gopi Battineni, **Generative adversarial network: An overview of theory and applications**, International Journal of Information Management Data Insights, (2021). [Weblink]
- **(AB)** Aleksey Bilogur, **Notes on GANs**, Kaggle, (2019). [Weblink]
- **(DE)** Daniel C. Elton, **Notes on GAN objective functions**, Science Notes, (2018). [Weblink]
- **(IG1)** Ian J. Goodfellow, Jean Pouget-Abadie, Mehdi Mirza, Bing Xu, David Warde-Farley, Sherjil Ozair, Aaron Courville, and Yoshua Bengio, **Generative Adversarial Nets**, Advances in Neural Information Processing Systems, (2014). [Weblink]
- **(IG2)** Ian Goodfellow, Jean Pouget-Abadie, Mehdi Mirza, Bing Xu, David Warde-Farley, Sherjil Ozair, Aaron Courville, and Yoshua Bengio, **Generative Adversarial Nets**, Communications of the ACM, (2020). [Weblink]
- **(MM)** Mehdi Mirza and Simon Osindero, **Conditional Generative Adversarial Nets**, arXiv, (2014). [Weblink]

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