AYMAN CHEET

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Summary: *feel free to check some of my experiments on* aymancheet.com

I am an innovation-driven full-stack programmer with over 15 years of professional experience. I started my career with high proficiency in linear algebra and AI. I pursued a line of work in Computer Graphics Programming which led me to a lot of growth in full system design engineering, real-time communication, and CPU/RAM optimization techniques. I took that knowledge and pivoted my concentration towards Machine Learning. I've held positions of Development Director, R&D Director, Head of Platforms, Software Architect, CTO, and CEO as well as 3 times co-founder and once founder. I've created software from the ground up in workflow/Scrum, finance, real-time communication, analytics as well as real-time multi-user workflows including ML & Real-Time Learning integration as well as a wide set of platforms.

Earned Competencies & Titles:

- Project Management.
- Product Development.
- Software Architecture.
- Agile Development / TDD / XP.
- Task management (SCRUM).
- Full Stack Developer.
- Full Stack Data Engineer.
- Full Stack Machine Learning Engineer.
- Data Scientist.
- Software Security Auditor.
- Google Cloud Platform Specialist.
- Advanced Code Optimization, SQL optimization.
- Research & Development pipeline management.
- User Experience Consultant.
- Staff Training in QA, DEV, UX.
- Market Research.
- 3D engine architect & AR/VR Stack developer.
- Very Fast Adaptation to new technologies and Programming Languages.

Soft Skills:

- Adopting high pressure situations and converting them to low pressure deliverables.
- HIghly efficient communication skills in US English.
- Ability to work remotely with efficient structure.

Programming:

- **Backend Development:**
  - Python: Flask.
  - NodeJS: ES6, ExpressJS.
  - Java: Servlets with Maven/Gradle.
  - C# with .Net and LINQ.
  - PHP, ASP.
  - Both Linux & IIS Server Architecture.
  - Full Stack server and cluster deployment setup on linux (Google AppEngine, Dokku, nginx, docker, pm2, gunicorn, etc..).
  - Multiprocessing and Inter-Process Communication in Python, Java and NodeJS.
- **Frontend Development:**
  - ReactJS.
  - Angular >2.
  - HTML 5, CSS 3.
  - Jquery, Angular.JS, UIKIT, bootstrap.
  - LESS/SCSS.
  - Native JavaScript, D3, HTML Canvas.
- **Relational Databases skills for highly flexible architecture, data integrity and speed:**
  - PostgreSQL, MySQL, MSSQL, MemSQL...
- **Non Relational Databases skills for data storage, aggregation and logging:**
  - MongoDB, Redis, SQLite...
- **Big Data & Data Science:**
  - High Experience with Language Data, Financial Data, Chronological Data, and Relational Data.
  - Unsupervised & Supervised learning through Python, Octave, Java, NodeJS.
  - Multiprocessing in python, NodeJS, Java.
  - Google BigQuery and general SQL.
  - Numpy, Pandas, scikit-learn.
  - Data Visualization (Jupyter Notebook, Web-Javascript through tabulator, amcharts,
- **Machine Learning:**
  - Neural Nets in Keras, Tensorflow and Theano, Turi and Octave.
  - Neural Networks, DNN, CNN, RNN.
  - Common NLP algorithms + NLTK.
  - Recommendation Algorithms: Content Filtering, Collaborative Filtering, Hybrid Systems, Matrix/Tensor Factorization.
  - Highly efficient ML Research pipeline on Google Cloud platform with Nvidia GPUs, BigQuery and Jupyter Notebooks.

- **Other Programming skills:**
  - C++, C#m Miranda, Assembly, QBasic.
  - Java for Android with C++ integration.
  - Objective-C with C++ integration.
  - Advanced 2D & 3D real time rendering Engine architecture.
  - OpenGL, OpenGL ES2, Shader Programming.
  - Image Processing and manipulation, drawing libraries stack on browser, server and app languages.
  - Unity 3D Basics, Qualcomm AR SDK.
  - Some Ruby & Ruby on Rails.

Additional Skills:
- Understanding of analytical and marketing automation software.
- A High understanding of recruiting processes, team building and brand awareness.
- Advanced Understanding of Marketing Strategies and Execution.
- Ad platforms such as Facebook and AdWords…
- SEO Optimization using keyword analysis.
- UX Layout creation through Illustrator, AdobeXD, Sketch, Figma.
- Drupal, WordPress.

Certificates:

- *Deep Learning Specialization (5 courses)*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *February, 2019*
    https://www.coursera.org/account/accomplishments/specialization/certificate/SXLD9PAHNQ3A
  - o
- *Sequence Models*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *February, 2019*
    https://www.coursera.org/account/accomplishments/certificate/S74HYLLT524B

- *Convolutional Neural Networks*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *January, 2019*
    https://www.coursera.org/account/accomplishments/certificate/FR6SW4EFDDVF

- *Structuring Machine Learning Projects*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *January, 2019*
    https://www.coursera.org/account/accomplishments/certificate/F3CGHSH2T3R9

- *Improving Deep Neural Networks: Hyperparameter tuning, Regularization and Optimization*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *December, 2018*
    https://www.coursera.org/account/accomplishments/certificate/F5EVPKCCEKFF

- *Neural Networks and Deep Learning*
  - *Offered by deeplearning.ai (Andrew Ng) on Coursera.*
  - *December, 2018*
    https://www.coursera.org/account/accomplishments/certificate/JS4YUBW7NYSA

- *Machine Learning*
  - *Offered by Stanford University (Andrew Ng) on Coursera.*
  - *December, 2018*
    https://www.coursera.org/account/accomplishments/certificate/THELZBQY9VGN

- *Machine Learning Foundations: A Case Study Approach*
  - *Offered by University of Washington (Carlos Guestrin, Emile Fox) on Coursera.*
  - *February, 2016*
    https://www.coursera.org/account/accomplishments/certificate/7GLV5NDBVLQ3

Education:

⬚ **Coursera** Machine Learning, Neural Networks and Deep Learning Specialization, 2016-today
I took and still take a variety of courses to tackle the different areas of machine learning and deep learning from Coursera.org taught by Universities Washington, Toronto, and Stanford and made available on Coursera.org. most of which I audit to complete my knowledge and some of which I acquire certificates.

⬚ **Self-Education:** Data Engineering and Unsupervised learning 2013-2016
I utilized my knowledge and insight in CPU and Memory optimization originating from my experience in Computer Graphics programming to shift this knowledge to big data and different innovative methods in unsupervised learning. Resulting to an algorithm using real-time learning intuition to produce a hierarchical clustering model on natural language data, resulting in the still ongoing today **www.hypegram.com** *which is kept online by requests from its users.*
Also resulting in a lot of techniques in multi-threading and distributed processing using NodeJS, python with Redis, MySQL
Most of my research concepts in this area are intuitive and not particularly learned through academic processes, but caught and still catch a lot of attention from researchers and professionals.

⬚ **Self-Education** Computer Graphics and Game Engine Programming, 2006-2009
I made a lot of progress educating myself in the various areas of 3D programming and Game Engine Design, a line of work that I was passionate about at the time. I Reverse engineered a few 3D engines and built my own rendition of a 3D game engine, a system I later on used within prototypes in my career.

⬚ **University of Windsor** *(Windsor, Ontario, Canada)* Computer Science Major, 2004-2005
I Transferred from University of Balamand after realizing that my interests were not matched by the education system I was in. I joined University of Windsor in hope of realizing a better Specialized Major for my Bachelor Degree, but I had to move back to Lebanon in 2005 due to financial trouble my parents went through shortly after the Hariri Assassination.

⬚ **University of Balamand** *(Koura, North Lebanon)* Computer Science Major, 2000-2004
I joined the University of Balamand in early 2000 planning on studying a Computer Science Major, with a Computer Graphics Programming minor through several courses that were available in their curriculum at the time.
During that time, I created many projects such as:
- *2 different games on C++ featuring advanced abilities in OOP and real-time programming.*
- *An Assembly Game replicating the "Snake" Game available on Nokia phones at the time.*
- *An Operating System task managing simulator involving a few innovative techniques.*
- *3D modeling engine built on C++ then transferred to Flash ActionScript 2.0 that was impressive considering the low level coding it required.*
  (CODES AND PREVIEWS AVAILABLE UPON REQUEST)

⬚ **College Des Peres Antonins** *(Baabda, Mount Lebanon)* Bac2 Specialization in Mathematics, up to 2000
Earned highest grade average among the last 4 promotions of Math Elem. Specialization.

Experience:

LEAD Tech Inc. – San Francisco, CA, USA

Co-Founder & CTO, 09-2019 to present
Reference: Yumi Kimura(CEO): **yumi@lead.app,** Jason Willems**: jason.m.willems@gmail.com**

- I joined LEAD Tech Inc. as a Co Founder and CTO to help finish the MVP and work towards raising another round of funding. The responsibilities included introducing a new production pipeline from a remote position. as well as decomposing and organizing new features into an Agile Workflow as well as developing certain aspects of the application database Architecture and data strategy.
- For more information please use the reference.

ProfitIsle – Boston, MA, USA

Software Architect, 01-2019 to 03-2020
Reference: Hady Lattouf (VP of Engineering, ProfitIsle) **hady.lattouf@profitisle.com**

- I joined Profit Isle off-shore under the leadership of Mr Hady Lattouf to assume a position of Software architect and was actively responsible for creating new features within the Profit Isle financial software. The responsibilities of that post put into action a lot of my Data Science Skills as well as my software know-how in front end and back-end aspects. And introduced to the company a new workflow of R&D based on solving problems that we face on an inconsistent basis and require special attention. I managed to produce a very efficient set of features within my year of work, which ended when the Architect position was moved from Lebanon to the US.
- For more information about my accomplishments and performance please use the reference.

Plottr – Beirut, Lebanon

Founder, 10-2016 to 01-2019 (3 years)

- After the Hypegram experiment, I was guided by potential clients and investors to create a B2B solution www.plottr.co from the same technologies achieved, I did so by creating my current startup Plottr. Which offers 7 different recommendation algorithms installed in less than 5 minutes on any website or mobile App. It offers several innovative analytical values like Virality and Lifespan based on time series and keyword analysis, a result of the Machine Learning embedded in the system.
- Developed the Software single handedly and funded my efforts with potential clients. The platform is ready to scale and can cater a number of clients exceeding our critical mass. This was achieved through a lot of unconventional CPU and memory optimization techniques I've learned through my Graphics Programming background and adapted to work with SQL and Server Technology achieving heavy machine learning workload with minimal CPU and RAM. It required full understanding of the algorithmic and mathematical side of NLP and recommender systems.
- Developed the Business Plan, Production pipeline for the first 12 months, and future product potentials.
- Validated the Market through a few key clients used as closed beta-test clients.

Hypegram (News App) – Beirut, Lebanon

Creator, 09-2015 to 10-2016 (1 year)

- www.hypegram.com started off as a side project to help me read my daily news feeds, and ended up as a full platform gathering news articles from over 120 different online sources through RSS feeds.

The website automatically clusters seamlessly all articles effectively grouping articles talking about the same subject together. This provided a feature missing in all news aggregators, which is automatically detecting headlines.

The Product contained a personalized multi layered recommendation system. As well as a decent analytics system.

- It was coded using NodeJS, MySQL, AngularJS, JavaScript, JQuery, HTML and CSS.
- Achieved a 0.5$ CPC with a steady user base from SEO and account signups.

Freelance Consultant – Beirut, Lebanon
Consultant, 11-2012 to 08-2015 (3 years)

- Consulted on a few web and mobile projects: DaleelMadani IOS Mobile App prototype, and a Small Architecture Firm using WordPress and PHP.
- Built from concept a highly efficient Voice Recording App Prototype on Chrome and IOS to be linked with a Voice Recognition API for www.cspsolutions.com named flowscribe. The app still unreleased was also meant to record and encode audio files on the fly, which extended the features required. Required high understanding of audio formats such as MP3 and Speex and custom usage of their encoding libraries to enable a streaming-like behavior.
(REFERENCE AND PREVIEW AVAILABLE UPON REQUEST)
- Created an IOS Based 3D OpenGL ES2 Game prototype including a full 3d pipeline using 3DSMAX for modeling and animation, 3DCoat for texture generation and a Set of 3DSMAX scripts and ActionScript Desktop App creating to get an economic animated binary 3d objects file format to be used by the engine.
(CODE AND PREVIEW AVAILABLE UPON REQUEST)
- Created a web app using C# and .Net as a meal recommendation system that given a set of ingredients would come up with the most popular choice.
(CODE AND PREVIEW AVAILABLE UPON REQUEST)
- Created a Relational Database Designer (3lief) on PHP and MYSQL. That was meant to be a non-programmatic relational data storage solution with mobile notification automation to be used as a Common CMS for any small static web. Abandoned to pursue research projects with better value.
(CODE AND PREVIEW AVAILABLE UPON REQUEST)

Cinemoz (Online video platform)– Beirut, Lebanon
Head of Platforms, 09-2012 to 10-2012 (2 months)

- During my very short stay I developed an early prototype of their IOS video player.
- Managed the Samsung TV App Development process.
- Provided General Advice and Consultancy on User Interface. Some of which was used at a later stage in the Company's progression.

Digitall (Advertising Agency)– Beirut, Lebanon
Creative Developer / Full Stack 03-2012 to 09-2012 (6 months)

- Developed a Facebook Game on PHP with an animated interface on jQuery to serve as an Awareness Campaign for Bledina.
- Consulted on Setting up a workflow for web apps and a Sales Strategy for web development.
- Multiple range of Augmented Reality prototypes serving different purposes Using the in-house developed A.R gameplay engine built on Android and IOS using Qualcomm A.R SDK.
- Built an AR game based on a Concept for a Lipton Awareness Campaign for their new line of products. that ran in Kuwait and Saudi Arabia. The Game was fully prototyped on Android, and then taken over by a development company when I decided to leave the company because of concerns about management.

Koein (Web & Software development) – Beirut, Lebanon
Research and Development Director/ Full Stack *01-2010 to 01-2012 (2 years)*

- **Koein P.M.** project management Software (private access) : is a real-time task manager with extensive workflow integration and very explicit smart reports and notifications. This project was built to be packaged, but then repurposed to be used only within the company, hosting over 50 employees and around 100 active projects. It was built on C#, MSSQL, ActionScript3.0 and HTML/CSS/JavaScript.
Although I did receive feedback from the Company when approaching the remodeling of their workflow, I brought the product from ideation to production, testing and implementation then integration with the employees. The Product is still being used today.
- **Lightbrary** (version offline). Was a real-time highly innovative Flash ActionScript3.0 interface for a Lighting equipment library targeted towards technical lighting professionals. Initiated by Debbas, one of the top lighting

equipment companies in the country. It included over 20'000 items that needed to be catalogued. The company that was handling the project at the time had done so manually and provided a basic REST API which eventually connected to the Interface.

- **Lightbrary PDF Server** This portion of the work focused on a PDF server proposed to catalogue and render every pdf file linked to each product, A Solution I devised by altering certain open source libraries that converted PDFs to SWF files, interjecting the process in the middle and remaking that library into a process that turns a pdf file into a sequence of sequential words in paragraphs with bounding boxes corresponding to each word in order to highlight search results. This was built on Linux C++ but compiled on windows. The resulting data was then put into a MSSQL table system that allowed a smart search to rank search words by an algorithm taking into account occurrences, frequencies and order. It required understanding of vector formats, a strong understanding of SWF file formats and some understanding of PDF formats.
- A few innovative website projects including some work in audio visualization and some 3d work and an MP3 recoding widget on ActionScript3.0 using lame encoder.
- I was also involved on a random yet consistent basis in all sorts of Market Research to ascertain the viability of some research areas, some products and some development proposals.
- I participated in consultancy work for a couple of startups that were getting ready to launch.
- I started constructing an IOS Development pipeline. To establish a Mobile Development department through the company. During that process I had to narrow down everything there is to know about IOS development and Android development in terms of Graphics and animation capabilities as well as building main libraries that were meant to be used as a backbone for Mobile Development.

Wunbox – Beirut, Lebanon
Co-founder and CTO, 09-2008 to 01-2010 (1 year, 3 months)

- Wunbox is a portfolio management solution was built on the in-housed product building platform holding the same name and included workflow integration, graph display (stock options), and several reports. which by default included the contact and file manager built into the platform, and instant messaging. all within an in-browser 3d rendered real-time interface.
- I was responsible for the complete research and development pipeline, coding the front-end part using an app-like environment through Flash ActionScript 3.0. The backend system was outlined and planned out by me but put into action by a capable Developer we hired for the task.

Koein (Website Development) – Mkalless, Beirut, Lebanon
Multimedia Director / Full Stack Dev. 09-2006 to 12-2008 (2 years)

- Structured and put in place Interface development and animation courses to introduce young graduates joining the company to the process of coding animated websites, and widget development.
- Built a multitude of Flash Animated websites, many of which took first to third places in PAN Arab Awards repeatedly.
- www.koein.com (version offline) a 3d cover flow animation using flash to present the portfolio.
- www.spadescasting.com (online) an ActionScript 2.0 web app that helped view and animate an extremely large list of casting candidates in a fluid game-like experience. It has won multiple golden awards since its inception.
- www.aishti.com (version offline) as ActionScript 2.0 web portal featuring the diverse product line of Aishti, a big local luxury brand.
- Many other products that won awards over my period, counting around 10 PAN Arab awards to projects I developed, animated and helped creatively direct.

Born Interactive (Website Development) – Sodeco, Beirut, Lebanon
ActionScript Developer, 07-2006 to 09-2006 (2 months)

- Revamped on a couple of Flash based Desktop apps. And a prototype for a venture to be run later on.
- Developed several Flash ActionScript 2.0 Components to be used later on in web development.

ElementC2 (A-Z Branding Agency) – Beirut, Lebanon
Computer Graphics / Full Stack Dev., 08-2005 to 07-2006 (1 year)

- Worked on various computer graphics techniques for animation and graphics generation.
- Build several websites to later on win awards and mentions on **website of the day**.
- www.soma-architects.com (version offline, preview available) Was an experimental website that I took single handed from concept to completion using various Computer Graphics techniques built on ActionScript 2.0, It was meant to put in focus the odd and futuristic design concept created by the artist who also overlooked the ideation process. It received 4 awards and mentions with 4/5 rating and up. The website in itself was not focused on usability and received accreditation for its experimental experience.
- Innovative Presentation system for KENT taking in XML to produce live presentations using heavy animation filters and techniques branded for the project.

Freelance Consultant – Beirut, Lebanon / Windsor, Ontario
Full Stack Dev., 2004 to 2005 (1 year)

- Developed a PHP/MySQL product to serve as a platform for freelance developers. It included a forum-like system with ranking and skill assessment system. It also included a live chat feature and internal emailing. The project was discontinued when I had to move back to Lebanon.
- Developed and Designed more than a few websites serving businesses across a multitude of industries.

WARM Studios (Web Development) – Beirut, Lebanon / Windsor, Ontario
Co-Founder, Full Stack Dev., 2003 to 2005 (2 years)

- Co-founded with a couple of friends a web design and development company.
- Setup the initial workflow and business model based on my experience in the field, and provided initial training for my partners on their respective responsibilities in design and sales.
- The company was able to land a few high profile clients such as The Lebanese American University Department of Science web portal. It was also noticeable enough to gain a PAN Arab award for best new-comer company.

Netiks (Web & Software) – Beirut, Lebanon
Paid Intern, Flash Animation and ActionScript, 2003 (2 months).

- Worked on a marketing campaign including a large amount of flash animations.
- Consulted on their Flash Development Workflow and provided initial components to be used years later in their web portal.

Netways (Web Development) – Beirut, Lebanon
Paid Intern, HTML, Web Front End and Design, 2003 (2 months).

- I found to have self-taught myself a lot of different aspects of web development but lacked the adequate experience with peers in the field to match it. At that point I decided to join one of the largest companies at the time as a paid intern. An experience that was enlightening in many ways.
- I trained as an HTML and frontend developer, but quickly moved into a pivotal position between the design and development pipeline.

Department of Business Management in University of Balamand – Koura, North Lebanon
Web Administrator, 2002 to 2003 (1 year).

- Was responsible for the department's initial website information architecture and launch, as well as maintaining it.
- I was later recommended for a summer job consulting on and developing a few websites.

Hobbies:

- Meditation.
- Guitar (Acoustic, Electric, Some Flamenco).
- Trumpet.
- Painting (Oil, Acrylic).