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Vancouver, Canada

CURRICULUM VITAE

I'm a **software professional** with a strong background in **computer science** and more than **25 years experience** delivering software. I am particularly effective at (and thoroughly enjoy) **solving problems**, **generating ideas**, **designing systems**, **leading small development teams**, **integrating** with the **open source ecosystem** and last but not least **crafting beautiful code**.

I am looking to contribute to organizations that **embrace the values of the Internet**: cooperation, openness, continuous improvement, community involvement. My **preferred application domains** include: Music and audio technologies, Arts and culture, Social development and civic engagement, Education.

Technically, I am familiar with a wide array of software technologies but I am partial to the **Linux platform**, running **multi-tiered**, **API-driven**, **component-based** applications that are delivered through the **Web**. My main interests revolve around **information modelling and processing**, including content and knowledge management, collaborative work, information indexing and retrieval, computational linguistics. My teams and I have **contributed code and documentation** to all the open source systems that we've used.

WORK EXPERIENCE

2021 – Present: Engineering contractor
I worked on several short- and medium-term contracts over the last 2 years, to satisfy my interests and utilize my skills where I can provide value:

Drupal architect, [Quartech Solutions](#)
Working on a project for the Government of British Columbia, Canada.
Technologies: Drupal, PHP, PostgreSQL, AWS, Docker, git

Engineering manager, [Internet Archive](#)
Internet Archive is one of the cornerstones of the modern Internet. I was thrilled to be offered a position to join the [Wayback Machine](#) team as Engineering Manager. My role in the Wayback Machine team involved the following:
- Align the team's technical activities with the product goals
- Help the team plan and execute on technical projects to reach production
- Participate in creating, maintaining and enhancing the team's software systems across the full stack
- Assess, document and enhance the team's engineering practices
- Increase collaboration and knowledge transfer between team members and with other Internet Archive teams
Technologies: Python, React, Nomad, Docker, git

Technical advisor, [Labyrinth Online](#)
Helping this online music course organization setup their technical infrastructure.
Technologies: Node.js, AWS, Wordpress, Airtable, git

Web Audio developer, [Newzik](#)
Delivering a Web Audio and MIDI multitrack player for this company's [online music collaboration platform](#).
Technologies: React, Web Audio, MIDI, git

2011 – 2020: CTO, [Meedan](#)

I was initially hired by this US non-profit as a Drupal consultant, but was soon offered the larger position of directing their engineering effort. My job involved the following:

- Manage the software development process with a geographically distributed team of ~10 members
- Plan system features with the product team, in terms of feasibility, prototyping, effort/time estimation, scheduling, ticketing
- Manage the implementation of system features with the software team, including selection of appropriate components, planning implementation strategy, code review, software testing, troubleshooting, and occasional coding
- Select and manage software development tools (bug tracking, version control, deployment tools, etc.)
- Manage system operations (hosting, performance, monitoring, backup, etc.)
- Build an [open source community](#) of developers around Meedan technologies

Over the course of this work, I managed the design and delivery of several exciting applications, including:

- **[Check](#)**, a collaborative social media verification application. This application is in active use by digital journalism newsrooms all over the world, including two [award-winning](#) [teams](#) at the 2017 Online Journalism Awards.
- **Bridge** (retired), a collaborative social media translation application – deployed to multiple partners including [National Geographic](#).
- **Checkdesk** (retired), a citizen journalism application focusing on media verification – recipient of multiple funds including Swedish Development Agency (SIDA) and Open Technology Fund, and deployed to multiple partners including world bloggers [Global Voices](#) and citizen investigators [Bellingcat](#).
- **Yallah/C2C** (retired), a social learning platform for distributed classrooms developed for Qatar Foundation's education programme.
- **Nurani** (retired), an inter-faith dialogue system developed for the University of Cambridge's Inter-Faith programme.

Technologies: React, Ruby on Rails, Python, Node.js, Drupal, PHP, Apache Storm, Facebook API, Twitter API, Slack API, WhatsApp API, GraphQL, PostgreSQL, Elasticsearch, MySQL, Redis, AWS, Docker, GitHub CI, Travis CI, Jenkins CI, git

WORK EXPERIENCE (cont'd)

2009 – 2014: Drupal freelancer
I moved from Cairo, Egypt to Vancouver, Canada in 2008, and restarted my software career there.

Through my freelancing site [There's a module for that!](#), I made myself available for Drupal contracts. Thanks to the technical articles on the site, as well as the [dozen or so modules that I've contributed to Drupal.org](#), my online reputation rose to the point where I received weekly quote requests on this site. My most successful contribution to Drupal.org is the module [Views Bulk Operations](#), which ended up being included in Drupal's core. I also adapted [Dan Bricklin's SocialCalc JavaScript spreadsheet engine](#) for inclusion [within the Drupal ecosystem](#).

2004 – 2008: Technical director and co-founder, OpenCraft, Cairo, Egypt
OpenCraft was a 25-employee open source services company which I co-founded with 2 partners. We were among the first adopters of open source technologies in the region, and decided to build a business model around open source services and consultancy. We focused on content management systems and intranets using Drupal. 4 years later, we had achieved a moderate level of success, with a client list including Intel, Google, Microsoft Research, Reuters and [IDRC](#).

My responsibilities at OpenCraft included:
- Selecting the technologies needed to deliver projects
- Participating in project delivery as software architect
- Solving hard problems that occurred during project design and implementation
- Designing and co-managing the software process and supporting tools
- Designing and co-managing the company's IT infrastructure
- Managing community contribution activities
- Designing and overseeing the technical recruitment process
- Creating and co-managing community outreach activities

WORK EXPERIENCE (cont'd)

1994 – 2001: Engineering lead, [ITWorx](#), Cairo, Egypt
ITWorx is a major Egyptian software services company. I was part of the initial 5-member team who started the firm, which today counts 700+ employees with offices in the US and several countries of the Middle East (Egypt, UAE and Saudi Arabia).

My responsibilities at ITWorx included:
- Leading the technical delivery of many projects, including managing engineering teams
- Researching and prototyping new ideas
- Creating internal tools and libraries for company-wide reusability
- Participating in software process improvement activities

Representative projects:
- Maintaining and enhancing **Corel MOTION 3D**, a 3D modeller bundled with Corel DRAW, as commissioned by Corel Corp.
- Creating plugins for **Adobe Photoshop**, as commissioned by Adobe Systems Inc. During the course of this project, I wrote a low-level C++ library that was reused by software teams at Adobe for many years.
- Porting **mimio Interactive Board**, an electronic whiteboard system, to Mac OS X. Also developing netMimio, a Web meeting application to be used in conjunction with the whiteboard system.
- Developing **Gen<X>**, a code generation tool for Microsoft Visual Studio, as commissioned by DevelopMentor. During the course of this project, I implemented a preprocessor system akin to ASP or PHP that constituted the core of the code generator. This preprocessor accepted many scripting languages including VBScript, JScript (Microsoft's equivalent to JavaScript) and ActiveState Perl.
- Designing and implementing **BugBase**, an internal bug tracking system that was later offered as an ITWorx product.

Technologies: C++, Win32 API, COM/OLE, Java, ASP.NET

EDUCATION

1995 – 1998: M.Sc. Computer Science, [Université de Montréal](), Canada
- Recipient of [Bourse de la Francophonie]() scholarship whereby the full program tuition was generously provided by the Canadian International Development Agency.
- Studied at the [computer graphics lab]() under the supervision of [Prof. Pierre Poulin]().
- Master's thesis: [Multi-level volumetric textures for the rendering of complex scenes]().
- Graduated with an A average GPA.

1989 – 1994: B.Sc. Computer Science, [American University in Cairo](), Egypt
- Minor in Mathematics and Physics.
- Graduated summa cum laude.

PUBLICATIONS

- Ratib, K. "Texture volumique multi-échelle pour l'affichage de scènes complexes." M.Sc. Thesis, Université de Montréal, December 1997.

- Poulin P., Ratib K., Jacques M. "Sketching Shadows and Highlights to Position Lights." Proc. Computer Graphics International 97, June 1997.

- Ratib, K., Aïmeur, E. "Vers l'intégration Enseignement Intelligemment Assisté par ordinateur / Interaction Humain-Machine." Technical Report #1028, Département d'Informatique et de Recherche Opérationnelle, Université de Montréal, April 1996.

GENERAL INFORMATION

- French / Canadian citizen
- Based in Vancouver, British Columbia, Canada (UTC-8)
- Languages: French, English, Arabic, Portuguese