Alexandre BERNARD

eKee.io founder and ex-CTO

19 Avril 1997

France

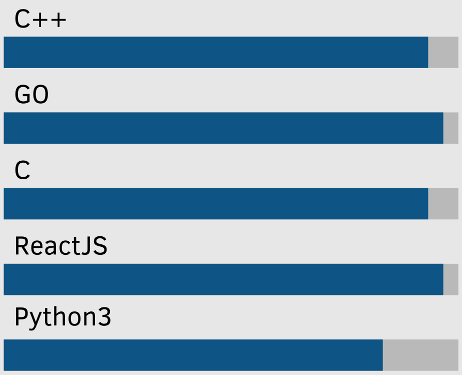
https://alx-b.com

alexandre.bernard1997@gmail.com

About me

After 3 years as founder and ex-CTO at eKee, I passed on the company to look for new horizons and focus more on what I like the most: coding.
I'm looking for a job around Annecy or on remote.

Skills



Languages

French: Native

English: TOEIC 955

Education

2020 Engineering degree in computer science — EPITA

2017 Joined the System and Security Laboratory of EPITA — EPITA
Major of the entrance exam

Experience

2019-2022 Co-founder and CTO at eKee — Paris
Founding a startup automating data management through digital identities with a team up to 9 people

2019-2019 Intern at Algolia — Paris 8
Member of the search engine's R&D team

2019-2020 C/UNIX Assistant — EPITA
C, Bash, Unix courses for 600 first year engineering students

2018-2019 Teaching assistant in Kernel development — EPITA
Head of a first year engineering class

2017-2018 Teaching assistant C# — EPITA
Responsible of a preparatory class

2017-2017 Intern at Creartech — Paris 13
Development of the mobile ticketing application and website for AquaRio, the largest aquarium in South America

Projects

- eKee
  - Managed a team up to 7 engineers;
  - Created a zero configuration query language: eKeeQL *(Go)*;
  - Extended eKeeQL with a tool generating REST APIs *(Go)*;
  - Permited users to create workflows based on update events impacting data they shared or received through eKeeQL *(Go, RabbitMQ, Argo Workflows)*;
  - Developed an asynchronous data replication system agnostic of the underlying databases *(Go)*;
  - Developed a complex and personalized dashboard *(ReactJS - MaterialUI, react-query)*;
  - Designed and developed eKee blog and showcase website https://ekee.io *(ReactJS - GatsbyJS, MaterialUI)*;
  - Maintained an hybrid infrastructure (Cloud + Baremetal) *(K8s, GKE, Docker - Baremetal, OVH, libvirt)*;
  - Set up an Infrastructure As A Code to deploy it all *(Gitlab, Helm, ArgoCD, Ansible)*;
  - Set up a staging environment *(Github, Gitlab, K8s, ArgoCD, Helm)*;
  - Automated the monitoring and alerting of the infrastructure and the services *(Sentry, Netdata, Healthchecks.io)*;
  - Implemented a job retrieving and processing data from the INPI / INSEE / BODACC every day (~700 million entries) *(Python3, RabbitMQ)*;

- Algolia:
  - Rewrote the binary format storing the authentication keys *(C++14)*;
  - Optimized the index replication between clusters (x11 faster in best case scenarios) *(C++17)*;
- LSE (EPITA's system and security laboratory):
  - Developed a micro-kernel used as an educational project for first year engineering students *(C)*;
  - Created a new method for injecting code into running binaries. Used to implement an edit-and-continue debugging module in GDB *(Python3)*;
  - Developed an hypervisor capable of running Linux *(C++17)*;
  - Implemented a meta-programming tool ensuring, during compilation, the validity of a state machine *(C++17)*;
  - Participated to French CTFs;
  - Implemented a x86 debugger for C and C++ *(C)*;
- Studies:
  - Automated the hijacking and remote control of JRC H47 ELFIE drones *(Python3)*;
  - Implemented procedural generation of game terrains and textures in Unity *(C#)*;
  - Developed an OCR *(C)*;
  - Developed a BitTorrent client *(C++17)*;
- Personnal:
  - Developed my personal website https://alx-b.com *(ReactJS, NextJS)*
  - Created the "varvector" data structure mixing meta-programming and CPU cache optimizations to store a sequence of variant objects with the best access performances *(C++17)*;
  - Wrote an intrusive tool to measure the performance of specific parts of a code *(C++17)*;

Conferences

2020 Une idée derrière la tech Maddyness
Interview organized by Maddyness on the genesis of the eKee project

2020 Transverse programming EPITA
How to code when you cannot remember what you were doing 2 seconds ago.

2019 Adaptive compression for the win Search party
Data replication can be speed up by compressing the packets. Except when the compression is slower than the transmission. Lets write an adaptive algorithm.

2019 VarVector CppFrug
std::vector are the most used structure in c++. What if I tell you you can put different types in it ?

2018 Edit and Continue in GDB LSE Week
On-the-fly editing is a very popular feature in IDEs. Let's try to implement this for C, C++ and embed it in GDB

2017 Let's have more than 4 watchpoints! LSE Lightning talk
GDB emulates each instruction when the debug registers are full. Let's see how we can do better