

GIACOMO PIPERNO

Mobile:

LinkedIn:

ABOUT

Founder and CEO of Piquadro Srl, a software house and IT consulting company in Rome, Italy. Specialized in the development of web and mobile platforms targeting financial intermediaries, innovative startups and medium to large companies needing robust and scalable solutions. Collaborated for years with the National Research Council and the Italian Ministry of Economy and Finance. Participated in national and international projects, both public and private, and worked in interdisciplinary areas that helped me gain knowledge and expertise, improve company processes, develop new software and optimize existing ones, consistently reducing wait times and achieving better overall results than before.

WORK EXPERIENCE

Institute for Applied Computing - National Research Council (IAC-CNR), Naples (Italy)	
Nov 2024 – Feb 2025	Senior Software Engineer
Feb 2024 – Jul 2024	Research Fellow
Type of business:	High performance computing; Linear algebra; Parallel computing; NVIDIA CUDA.
Main activities and responsibilities:	<ul style="list-style-type: none">Refactoring of current software to improve performance and maintainability.Implementation of new algorithms to solve sparse linear systems.
Skills:	C; C++; CUDA; MPI.

Piquadro Srl, Rome (Italy)	
Feb 2022 – Aug 2022	Senior IT Consultant
Client and type of business:	Psychiatry and Behavioral Sciences. Project commissioned by a US based startup in collab. with Stanford University School of Medicine.
Main activities and responsibilities:	<ul style="list-style-type: none">Designed multiple pieces of software to allow patients to perform various kind of computer tests in order to accurately identify patient's biotype.Included in the deliverable: requirements analysis, overall system design, ad-hoc UX and mobile devices support considerations. Data from MRI referrals will be considered soon.Built prototype to collect and analyze patient's data in order to statistically predict with high accuracy the likelihood of having certain disorders/diseases.Optimized previously written code, cutting analysis time cut from hours to minutes.
Skills:	C; Java; JavaScript; Bash; Make; Private Linux server administration and security.
Feb 2021 - Current	Managing Director / Senior Software Engineer
Client and type of business:	Managing information systems. Collaborative platforms. Project commissioned by a business consulting company, Studio Simontacchi Srls , Milan (Italy).
Main activities and responsibilities:	<ul style="list-style-type: none">Designed and developed "Magazzino" ("Warehouse"), a modern and user friendly s/w for warehouse management. System deployed and commercialized as SaaS.Conceived to perform most recurrent actions in 2 or 3 clicks/taps.Supported multiple companies, with hundreds of users each. Permission based authorization.
Skills:	Java; Spring Boot; Vue; Bash; MySQL; Private Linux server administration and security.
Jan 2019 - Current	Managing Director / Senior Software Engineer
Client and type of business:	Managing information systems. Collaborative platforms. KYC. Remote customer acquisition. Customer is a financial intermediary, Adattofin Mediazione Creditizia SpA , Rome (Italy).
Main activities and responsibilities:	Designed and developed multiple software systems, mainly targeting financial intermediaries: <ul style="list-style-type: none">"Seguimi" ("Follow me") allows financial intermediaries to track different financing or investment processes on per-product basis: steps, constraints and documentation to be uploaded can be designed using visual tools. A "cloud & instant messaging" system is supplied;"Mostro" ("Monster") allows financial advisors to assess the financial health of a company by automatically downloading public data (financial statements, company searches, etc.) and integrating them with user-provided data in order to calculate and present a series of financial

	<p>indicators and potentially suggest areas for improvement. An invitation-based system allow external users to access specific resources with arbitrary-chosen permissions; a very flexible analysis engine allow administrators to easily define formulas and layout reports to analyze companies and present users with results according to their needs;</p> <ul style="list-style-type: none"> • "Integra" ("Integrate") allows users to automatically download public data of companies, calculate the composition of corporate groups and the actual (direct and indirect) participation of shareholders and important figures (administrators, auditors, etc.). "Integra" also allows for the automatic drafting of contracts based on customizable templates and invites signatories to sign directly online using recognized digital signature services; • "Easy" integrates all the previous pieces of s/w and further improve the UX. A generic "Api Client" allow us to easily query multiple data providers (Chamber of Commerce, CreditSafe, Genio, INEO).
Skills:	Java; Spring Boot; Vue; Bash; MySQL; Private Linux server administration and security.
Nov 2020 - Dec 2021	Senior IT Consultant
Client and type of business:	Managing information systems. Collaborative platforms. Client is Mikro Kapital SpA , a group focused in the use of microfinance techniques.
Main activities and responsibilities:	<ul style="list-style-type: none"> • Analyzed s/w currently in use by the client: identified improvements to the instructional process that can make the quantitative and qualitative management of funding requests more efficient. • Entirely redesigned internal business processes in order to support hundreds/thousands (previously dozens) of funding requests per month, through automatic data acquisition and analysis, contract generation and digital signatures.
Skills:	Java; Spring Boot; Vue; Bash; MySQL.
Nov 2010 - Dec 2018	Managing Director / Senior Software Engineer
Client and type of business:	Managing information systems for credit mediation companies. Collaborative platforms. Main customers: Adattofin Srl, UMCI SpA, Capital Money SpA, P4B Srl, A1 Money Srl.
Main activities and responsibilities:	<p>Designed and developed "Andromeda", a collaboration platform to manage different brokerage houses and nearly every aspect of their business (preliminary loan request, product comparison, instructional process, document management, constraints validation, single and cross-network commissions, generation of provisional statements and invoices, ...).</p> <ul style="list-style-type: none"> • Built a very flexible authorization framework, supporting hierarchies, permission-based decisions and interoperability between brokerage houses with hundreds of users each; • Created an engine for formula evaluation, providing functionalities similar to Excel's formulas, but much easier to write according to our non-technical users; • Allowed full control over documents to be uploaded/signed on per-product basis and full control over the calculation of received commissions.
Skills:	Java; JSF; AntLR; PostgreSQL; JBoss Seam; Private Linux server administration and security.
Jun 2015 - Feb 2016	Managing Director / Senior Software Engineer
Client and type of business:	Country Risk Assessment. Management information systems. Collaborative platforms. Project commissioned by IFI Srl .
Main activities and responsibilities:	<ul style="list-style-type: none"> • Designed and developed "RES - Risk Evolution System", for country risk assessment and analysis. • Entire s/w system designed, implemented, tested and put into production in 8 months; • Implemented DELPHI methodology to reduce human interference in risk factor evaluation; • Analyzed most-effective charts/graphs to present.
Skills:	Java; Spring Boot; CoffeeScript; KnockoutJs; R; PostgreSQL
Almaviva SpA, Rome (Italy)	
Jun 2020 - Dec 2022	Sen. IT Expert in: i) economic, planning and financial analysis; ii) public debt management
Type of business:	Computational finance. Project commissioned by Ministry of Economy and Finance.
Main activities and responsibilities:	<ul style="list-style-type: none"> • Designed and implemented tools to assist and improve operational activities supporting the assessment of Public policies and decisions. • Improved technical, computational, analytical and forecasting capabilities of existing s/w. • Refactored the computation engine in order to support all kind of financial instruments (bonds, derivatives, etc.) with minor effort.

	<ul style="list-style-type: none"> Designed and implemented a user-certified repository for historical data about issuances, indexes and rates coming from various sources and often subject to discrepancies. Created/redesigned/refactored analysis and reporting tools in order to: 1) support different themes and layouts and 2) support new data from the computation engine with very minor effort.
Skills:	C; C++; Perl; Tk; SQLite; SQL Server; Bash; Batch; Gnuplot; Python; Excel; Web services.

Infosystem Security Srl, Modena (Italy)	
Jul 2019 - Oct 2022	Senior Software Engineer
Type of business:	Big data analysis, high performance computing, UX, API design, system security.
Main activities and responsibilities:	<ul style="list-style-type: none"> Analyzed terabytes of data in seconds/minutes. Specifically designed UI to summarize lots of pieces of information in little space. Specifically designed visual editors to allow analysts to create custom graphs. Security improvement through hardware devices and virtualization techniques.
Skills:	C; Python; Java; Spring Boot; JavaScript; Vue; Bash; PostgreSQL.

Target Formazione & Riqualificazione. Training Organization accredited and approved by the Calabria Region.	
May - Jun 2020	Teacher. Online course on HTML5 : 10 hours theory, 20 hours laboratory.
Apr - May 2020	Teacher. Online course on Advanced HTML and CSS : 10 hours theory, 20 hours laboratory.

Institute for Applied Computing - National Research Council (IAC-CNR), Rome (Italy)	
Jun 2015 - Jun 2017	Senior Software Engineer
Type of business:	Big data; High performance computing; System security. European project reference: DG Home Affairs ISEC Programme 2013 Project IANCIS "Indexing of Anonymous Network for Crime Information Search" .
Main activities and responsibilities:	<ul style="list-style-type: none"> Designed and developed a software architecture for collecting, indexing and analyzing large amounts of data, providing security through sandboxing. Terabytes of data analyzed in seconds/minutes thanks to code parallelization and identification of bottlenecks in the indexing system.
Skills:	C; C++; Java; Perl; Python; Bash; VMWare/Virtual box.
Jun 2008 - May 2017	Jun 2011 - May 2017 Sen Software Engineer ; Jun 2008 - May 2011 Jr Software Engineer
Type of business:	Computational finance. Project commissioned by Ministry of Economy and Finance .
Main activities and responsibilities:	<ul style="list-style-type: none"> Designed and developed a software environment for cost-risk analysis in public debt management: the issuance of bonds is done attempting to minimize the cost of interest and the probability of not meeting constitutional and European constraints over time. Reduced the complexity of some algorithms in the computation engine from $O(n^2)$ to $O(n)$. Achieved a complete separation of UI, computation engine, scenarios production models, post-computation analysis engine and report engine. Redesigned and implemented I/O in order to significantly simplify testing and maintenance.
Skills:	C; C++; Perl; Tk; SQLite; SQL Server; Bash; Batch; Gnuplot; Python; Excel; Cross-platform development; Installation procedures; Shared data.
Oct 2011 - Oct 2016	Senior Software Engineer
Type of business:	Computational finance. Project commissioned by Fondo Pensione UniCredit (Pension Fund) .
Main activities and responsibilities:	<ul style="list-style-type: none"> Designed and developed the computation engine for an asset and liability management (ALM) software system for pension funds, capable of producing thousands of demographic scenarios in milliseconds (prev. not considered at all) and thousands/millions of asset evolution scenarios in seconds (prev. units in minutes) in order to perform cost-risk analysis based on different policies of asset allocation (previously left to external human consultants). Achieved 1 of the objective function in order to perform linear optimization. Improved non-linear objective functions (mainly through parallelization).

Skills:	C; C++; Perl; Bash; Batch; Gnuplot; Python; Excel.
May 2013	Teacher. Series of 3 seminars on Software development for pension funds .
May 2009 - Nov 2010	Managing Director / Software Engineer at Ice Cream Studios Srl, Rome (Italy)
Main activities and responsibilities:	<ul style="list-style-type: none"> Designed and developed games/apps for mobile devices (especially iPhone, iPod and iPad) Designed, implemented and commercialized "Space Rocks", a game for iOS devices.

PUBLICATIONS

Title:	Parallel <i>Quasi</i> Exhaustive Search of Optimal Asset Allocation for Pension Funds
Authors:	Massimo Bernaschi, Mauro Carrozzo, Matteo Lulli, Giacomo Piperno, Davide Vergni
Journal:	American Journal of Operations Research, 2016, 6, 387-400

EDUCATION AND TRAINING

Oct 2006 - Feb 2009	Sapienza, University of Rome: Master's degree in Computer Science	110/110 cum laude
Oct 2003 - Dec 2006	Sapienza, University of Rome: Bachelor's degree in Computer Science	110/110 cum laude
Mar 2006 - Jun 2006	ESRI Italia: Technical GIS certificate	30/30