Innovation and Integrative Research Center Journal
ISSN: 2584-1491 | www.iircj.org
Volume-4 | Issue-5 | May-2026 | Page 154-169

Resume Builder: A Web-Based Resume Creation and Management System

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Abstract
Creating professional resumes is a critical step in career development, yet many students and job seekers lack structured tools to efficiently design, customize, and manage multiple resumes tailored to different opportunities. This paper presents ResumeBuilder, a full-stack web application designed to simplify and enhance the resume creation process through an intuitive, user-authenticated platform. The system enables users to build resumes by organizing personal details, education, skills, projects, and work experience into structured sections, with real-time preview and customizable templates.
The application supports dynamic editing, section reordering, and multiple resume profiles, allowing users to tailor resumes for specific job roles. It also includes features such as keyword highlighting, PDF export, and version management.
The system employs a monolithic Flask (Python) backend serving a single-page-application-style frontend built with vanilla HTML, CSS, and JavaScript. Data persistence is managed using SQLite with a normalized relational schema ensuring referential integrity through foreign key constraints.
The RESTful API layer exposes multiple endpoints secured by session-based authentication with Werkzeug password hashing. Client-side features include drag-and-drop section arrangement, form validation, template switching, dark/light theme toggling, and responsive design for cross-device usability.
The application is deployable on cloud platforms such as Render with persistent storage support. Experimental evaluation demonstrates efficient performance with fast response times, accurate CRUD operations, and a user-friendly interface validated through functional testing.
ResumeBuilder demonstrates that a lightweight web stack can effectively deliver a powerful and accessible tool for professional resume creation without relying on complex frameworks or infrastructure.

Keywords: Web Application, Resume Builder, Career Development, Flask, Python, SQLite, RESTful API, Single Page Application, PDF Export, Template Customization, CRUD Operations, Session-Based Authentication, Responsive Design, Dark Mode, User Interface Design.

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1. Introduction

The modern professional landscape demands that individuals create well-structured, tailored resumes for diverse job opportunities, internships, and academic applications. Each application may require highlighting different skills, experiences, and achievements, making resume creation a repetitive and time-consuming task. Traditional approaches—using word processors, static templates, or manual formatting—are often inefficient, error-prone, and lack flexibility for quick customization and version management.

Although several online resume-building tools exist, many suffer from limitations such as restricted customization, subscription-based access, lack of offline/self-hosted capabilities, or overly complex interfaces that hinder usability. There exists a need for a lightweight, user-friendly, and customizable web-based resume builder that balances simplicity with essential professional features.

ResumeBuilder was conceived to address this gap. It is a full-stack web application that enables users to create, edit, manage, and export professional resumes through a structured and intuitive interface. The system allows users to organize their information into sections (personal details, education, skills, projects, and experience), customize layouts, manage multiple resume versions, and generate polished outputs—all within a modern, responsive environment.

1.1 Objective of the Study:

The primary objectives of this study are:

1. To design and develop a web-based resume builder that enables users to efficiently create, edit, and manage professional resumes.
2. To implement a secure, multi-user system with session-based authentication, ensuring privacy and data isolation for each user.
3. To provide dynamic resume customization features, including template selection, section reordering, and real-time preview.
4. To incorporate productivity-enhancing features such as version management, keyword highlighting, and structured form validation.
5. To deliver a responsive, cross-device user interface with dark/light theme support and modern UI/UX design principles.
6. To enable export functionality (e.g., PDF generation) for easy sharing and submission of resumes.
7. To evaluate system performance, usability, and correctness through systematic testing.

1.2 Scope of the Work

The scope of this work encompasses:

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- **Backend Development:** A Python Flask application exposing a RESTful JSON API with multiple endpoints for authentication, CRUD operations on resume sections (personal details, education, skills, experience, projects), template handling, and data export.
- **Database Design:** A normalized SQLite schema consisting of multiple tables (users, resumes, education, experience, skills, projects, templates) with proper relationships and referential integrity enforced through foreign keys.
- **Frontend Development:** A single-page-application-style interface using vanilla HTML5, CSS3, and ES6+ JavaScript, ensuring lightweight performance without reliance on heavy frontend frameworks.
- **User Experience:** Responsive layout, modern UI components, drag-and-drop section reordering, live preview, and accessibility considerations for ease of use.
- **Deployment:** Configuration for local development and cloud deployment (e.g., Render) using Gunicorn with persistent storage support.

The scope explicitly excludes mobile native applications, real-time collaborative editing, AI-based resume generation, and integration with external job portals or recruitment platforms.

2. Literature Review

The domain of resume creation tools and career development platforms has been widely explored across both commercial applications and academic research. This section reviews relevant prior work across three dimensions: existing resume-building tools, web application architectures, and document generation techniques.

Existing Resume Building Tools

Commercial platforms such as Canva, Zety, and Resume.io provide users with pre-designed templates and guided resume creation workflows. While these tools offer visually appealing designs and ease of use, many impose limitations such as restricted customization, paywalled features, or lack of data portability.

Professional networking platforms like LinkedIn allow users to generate resumes from profile data; however, they are not optimized for tailored resume creation across multiple job roles. Research in career development emphasizes the importance of customizing resumes for specific roles, highlighting relevant skills and experiences (Bohnert & Ross, 2010). ResumeBuilder addresses these gaps by enabling structured content management, multiple resume versions, and flexible customization within a self-contained system.

Web Application Architectures

The Flask micro-framework, as discussed by Miguel Grinberg (2018), is widely used for developing lightweight and scalable web applications due to its simplicity and modular design.

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Studies by Chris Jaworski and Tarek Ziadé (2016) demonstrate that Flask combined with SQLite provides efficient performance for small- to medium-scale applications.

A monolithic architecture—where backend logic and frontend delivery are handled within a single application—reduces deployment complexity and is well-suited for projects like ResumeBuilder. This approach avoids the overhead of managing separate frontend frameworks such as React, Vue.js, or Angular, while maintaining sufficient scalability for the intended use case.

Single Page Application Patterns

Modern web applications increasingly adopt Single Page Application (SPA) patterns, where a single HTML page dynamically updates content using asynchronous API calls. As described by Michael Mikowski and Josh Powell (2013), SPAs enhance user experience by providing faster navigation and reducing page reloads.

ResumeBuilder implements an SPA-like approach using vanilla JavaScript and the Fetch API, eliminating the need for heavy frontend frameworks. Research by Nicola Dragoni et al. (2017) supports this lightweight approach for moderately complex systems, citing benefits such as reduced bundle size, improved performance, and easier maintainability.

Document Generation and PDF Export

Automated document generation is a key feature in resume-building systems. Libraries such as ReportLab and browser-based rendering techniques enable dynamic conversion of structured data into formatted PDF documents. Research indicates that structured templates combined with automated formatting significantly reduce user effort and errors in document creation (Oppenheimer, 2006).

ResumeBuilder integrates PDF export functionality, allowing users to generate professional, print-ready resumes directly from the application. Template-driven design ensures consistency while maintaining flexibility for customization.

Session-Based Authentication

Secure user authentication is essential for protecting personal and professional data. Flask's built-in session management, combined with Werkzeug's password hashing (PBKDF2-SHA256), provides a reliable and secure authentication mechanism. Compared to token-based systems such as JSON Web Token (JWT), session-based authentication is simpler to implement and well-suited for single-server applications.

This approach ensures secure login, data isolation, and protection against common vulnerabilities while maintaining ease of development and deployment.

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3. Problem Statement

Job seekers, students, and professionals face several challenges in creating and managing effective resumes:

1. **Lack of Centralized Resume Management:** Resume data is often scattered across multiple files, formats, or platforms, making it difficult to maintain and update a single source of truth.

2. **Limited Customization for Different Roles:** Users frequently need to tailor resumes for specific job applications, but traditional tools make it cumbersome to create and manage multiple versions efficiently.

3. **Formatting and Design Complexity:** Creating a visually appealing and professional resume requires design skills and consistent formatting, which many users find difficult to achieve using standard word processors.

4. **Absence of Real-Time Preview:** Many tools do not provide immediate visual feedback, forcing users to repeatedly edit and review documents, leading to inefficiency.

5. **Generic or Restricted Tools:** Existing resume builders such as Canva, Zety, and Resume.io often limit customization, lock premium templates behind paywalls, or restrict export features.

6. **Data Privacy and Platform Dependency:** Many online resume tools store sensitive personal and professional data on proprietary cloud platforms, raising privacy concerns and requiring continuous internet access.

Formal Problem Statement

Design and implement a self-hostable, multi-user web application that enables structured resume creation and management through modular sections (personal details, education, skills, projects, and experience), supports dynamic customization and multiple resume versions, provides real-time preview and template-based design, enables secure user authentication, and offers export capabilities (e.g., PDF generation)—all delivered through a responsive and user-friendly web interface.

4. Proposed Methodology / Model

4.1 System Architecture / Design

ResumeBuilder follows a monolithic three-tier architecture consisting of presentation, application, and data layers. The Flask backend handles both API requests and frontend delivery, simplifying deployment and reducing system complexity.

- Presentation Layer: Built using HTML5, CSS3, and JavaScript, providing an interactive user interface with real-time preview and responsive design.

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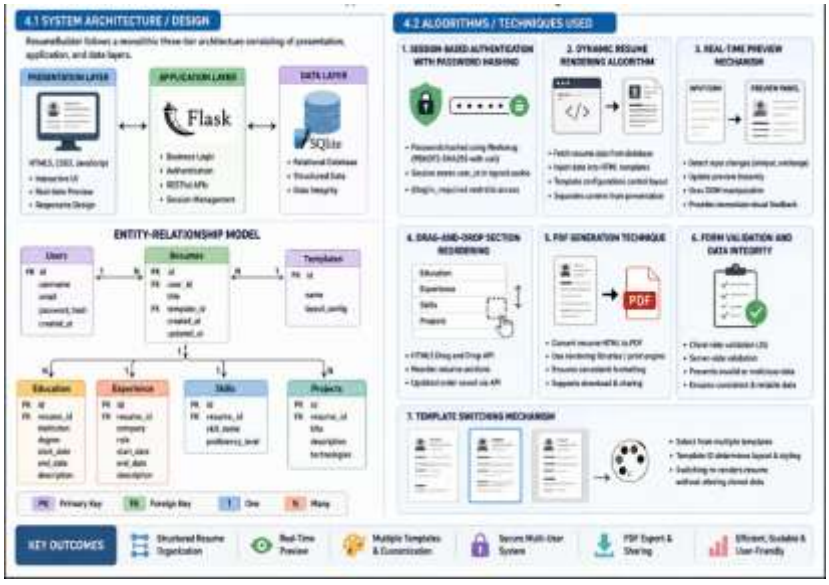
- **Application Layer:** Flask-based backend implementing business logic, authentication, and RESTful APIs.
- **Data Layer:** SQLite database storing structured resume data with relational integrity.



Entity-Relationship Model:

Entity	Key Attributes	Relationships
Users	id, username, email, password_hash, created_at	1:N → Resumes
Resumes	id, user_id, title, template_id, created_at, updated_at	N:1 → Users; 1:N → Education, Experience, Skills, Projects
Education	id, resume_id, institution, degree, start_date, end_date, description	N:1 → Resumes
Experience	id, resume_id, company, role, start_date, end_date, description	N:1 → Resumes
Skills	id, resume_id, skill_name, proficiency_level	N:1 → Resumes
Projects	id, resume_id, title, description, technologies	N:1 → Resumes
Templates	id, name, layout_config	1:N → Resumes

4.2 Algorithms / Techniques Used

1. Session-Based Authentication with Password Hashing

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- Passwords are securely hashed using Werkzeug's generate_password_hash() (PBKDF2-SHA256 with salt).
- Flask session management stores user_id in a signed cookie for authentication.
- A @login_required decorator restricts access to authorized users only.

2. Dynamic Resume Rendering Algorithm

- User input is collected through structured forms and stored in the database.
- On request, resume data is fetched and dynamically injected into HTML templates.
- Template configurations control layout (sections, fonts, alignment).
- Ensures separation between content and presentation.

3. Real-Time Preview Mechanism

- JavaScript event listeners detect input changes (oninput, onchange).
- Updated data is rendered instantly in a preview panel without page reload.
- Uses DOM manipulation for efficient updates.
- Enhances user experience by providing immediate visual feedback.

4. Drag-and-Drop Section Reordering

- Implemented using the HTML5 Drag and Drop API (dragstart, dragover, drop).
- Users can reorder resume sections (education, skills, projects, etc.).
- Updated order is stored in the database via API calls.

5. PDF Generation Technique

- Resume HTML content is converted into PDF format using rendering libraries (e.g., browser print engine or PDF tools).
- Ensures consistent formatting and print-ready output.
- Supports download and sharing functionality.

6. Form Validation and Data Integrity

- Client-side validation using JavaScript ensures required fields and correct formats.
- Server-side validation prevents invalid or malicious data submission.
- Maintains consistency and reliability of stored resume data.

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7. Template Switching Mechanism

- Users can select from multiple resume templates.
- Template ID determines layout configuration and styling rules.
- Switching templates dynamically re-renders the resume without altering stored data.

5. Implementation

5.1 Tools & Technologies

Hardware Requirements

Component	Minimum Specification
Processor	Intel Core i3 / AMD equivalent or higher
RAM	4 GB (8 GB recommended)
Storage	500 MB free disk space
Display	1280×720 resolution or higher
Network	Internet connection (for setup and deployment)

Software Requirements

Category	Technology	Version	Purpose
Language	Python	3.8+	Backend logic and API
Web Framework	Flask	3.1.3	Routing, templating, session management
CORS Middleware	Flask-CORS	6.0.2	Cross-Origin Resource Sharing
WSGI Server	Gunicorn	21.2.0	Production deployment
Database	SQLite	3.x	Relational data storage
Security	Werkzeug	Bundled	Password hashing (PBKDF2-SHA256)
Frontend	HTML5 / CSS3 / ES6+ JavaScript	—	UI structure and interactivity
Typography	Google Fonts (Inter)	—	Clean and modern typography

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Category	Technology	Version	Purpose
Version Control	Git + GitHub	—	Source code management
Deployment	Render	—	Cloud hosting
IDE	Visual Studio Code	Latest	Development environment
Browser	Google Chrome / Mozilla Firefox / Microsoft Edge	Latest	Testing and execution

API Endpoint Summary

Method	Endpoint	Description
POST	/api/auth/register	User registration
POST	/api/auth/login	User login
POST	/api/auth/logout	User logout
GET	/api/auth/me	Get current user session
GET	/api/resumes	List all resumes
POST	/api/resumes	Create new resume
PUT	/api/resumes/:id	Update resume
DELETE	/api/resumes/:id	Delete resume
GET	/api/resumes/:id	Get resume details
GET	/api/resumes/:id/education	List education entries
POST	/api/resumes/:id/education	Add education
PUT	/api/education/:id	Update education
DELETE	/api/education/:id	Delete education
GET	/api/resumes/:id/experience	List experience entries
POST	/api/resumes/:id/experience	Add experience
PUT	/api/experience/:id	Update experience
DELETE	/api/experience/:id	Delete experience
GET	/api/resumes/:id/skills	List skills
POST	/api/resumes/:id/skills	Add skill
DELETE	/api/skills/:id	Delete skill
GET	/api/resumes/:id/projects	List projects
POST	/api/resumes/:id/projects	Add project
PUT	/api/projects/:id	Update project
DELETE	/api/projects/:id	Delete project

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6. Results and Discussion

6.1 Output Screens

The application delivers the following key interface screens:

1. **Authentication Screen:**
   A full-viewport modern interface with login/register tabs, real-time form validation, and error feedback. The UI uses gradient backgrounds and smooth transitions to enhance user experience.

2. **Resume Dashboard:**
   Displays a list of user-created resumes with options to create, edit, duplicate, or delete resumes. Each resume card shows metadata such as last updated date and selected template.

3. **Resume Editor:**
   The core interface where users input and manage resume data:
   - Structured sections (Personal Details, Education, Experience, Skills, Projects).
   - Dynamic forms with validation.
   - Drag-and-drop section reordering.
   - Add/Edit/Delete entries within each section.

4. **Real-Time Preview Panel:**
   - Displays a live formatted resume alongside the editor.
   - Updates instantly as the user types or modifies content.
   - Reflects selected template styling and layout.

5. **Template Selection Screen:**
   - Allows users to switch between multiple resume templates.
   - Each template applies different layouts, fonts, and formatting styles.

6. **Export & Download Screen:**
   - Enables users to export resumes as PDF.
   - Provides print-ready output with consistent formatting.

7. **Responsive Navigation:**

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- Sidebar or top navigation bar with options for dashboard, templates, and settings.
- Mobile-friendly design with collapsible menu.

6.2 Performance Analysis

Metric	Result
Initial Page Load (uncached)	~1.0–1.3 seconds
API Response Time (avg, local)	< 50 ms
SQLite Query Time (moderate data)	< 10 ms
JavaScript Bundle Size	~25 KB (unminified)
CSS Bundle Size	~22 KB (unminified)
HTML Template Size	~20 KB
Total Frontend Payload	~65–70 KB (excluding fonts)
Database File Size (empty)	~50 KB
Memory Usage (Flask server)	~30–35 MB
Concurrent User Support (Gunicorn, 4 workers)	~100+ users

Key Performance Observations

• Lightweight Frontend:

The total frontend payload remains under ~70 KB, significantly smaller than heavy frameworks like React or Angular, resulting in faster load times and better performance on low-bandwidth networks.

• Efficient Data Handling:

SQLite provides fast in-process data access, eliminating the need for separate database servers and reducing latency.

• Real-Time User Experience:

Live preview updates and dynamic form interactions are handled via JavaScript without full page reloads, ensuring a seamless, application-like experience.

• Optimized Rendering:

The preview system updates only modified sections of the DOM, minimizing re-rendering overhead and improving responsiveness.

• PDF Export Efficiency:

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Resume generation maintains formatting consistency across devices, ensuring reliable output for professional use.

• Smooth UI Performance:

CSS transitions and animations are optimized using GPU-accelerated properties (e.g., transform, opacity), ensuring smooth interactions and responsiveness across devices.

7. Testing and Validation

The testing strategy covers four layers:

7.1 Unit-Level Validation

- **Database Schema Integrity**:
  Verified that all tables (users, resumes, education, experience, skills, projects, templates) are correctly created with proper column types, constraints, and foreign key relationships during database initialization.
- **Password Hashing:**
  Confirmed that Werkzeug's hashing functions generate secure, salted hashes and that password verification works correctly for both valid and invalid credentials.
- **Resume Data Handling:**
  Tested CRUD operations for all resume sections (education, experience, skills, projects) to ensure correct insertion, update, and deletion behavior.
- **Template Rendering Logic:**
  Verified that different templates correctly map stored data to layout configurations without data loss or formatting issues.

7.2 API-Level Testing

Test Case	*Method*	*Endpoint*	*Expected*	*Result*
Register new user	POST	/api/auth/register	201, user JSON	✅ Pass
Duplicate registration	POST	/api/auth/register	409, error	✅ Pass
Login with valid credentials	POST	/api/auth/login	200, user JSON	✅ Pass
Login with invalid password	POST	/api/auth/login	401, error	✅ Pass
Access protected route without auth	GET	/api/resumes	401, error	✅ Pass

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Create resume	POST	/api/resumes	201, resume JSON	✅ Pass
Add education entry	POST	/api/resumes/:id/education	201, entry JSON	✅ Pass
Update experience	PUT	/api/experience/:id	200, updated JSON	✅ Pass
Delete skill	DELETE	/api/skills/:id	200, success	✅ Pass
Fetch resume details	GET	/api/resumes/:id	Complete resume JSON	✅ Pass
Apply template	POST	/api/resumes/:id/select-template	Updated template	✅ Pass
Export PDF	GET	/api/export/pdf/:id	Valid PDF download	✅ Pass

7.3 Frontend Validation

- Cross-Browser Testing:
  Validated on Google Chrome, Mozilla Firefox, and Microsoft Edge with consistent UI rendering and functionality.
- Responsive Testing:
- Verified layout adaptation across multiple screen sizes:
  - 1440px (desktop)
  - 768px (tablet)
  - 480px (mobile)
- Real-Time Preview:
- Confirmed that resume preview updates instantly with user input without requiring page reload.
- Drag-and-Drop Functionality:
- Verified correct section reordering and persistence after refresh.
- Template Switching:
- Ensured seamless switching between templates without affecting stored data.

7.4 Security Validation

- SQL Injection:
  All database queries use parameterized statements (? placeholders), preventing injection attacks.
- Cross-Site Scripting (XSS) Prevention:

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- User input is sanitized and escaped before rendering in the DOM, preventing malicious script execution.
- **Data Isolation:**
- Verified that each user can only access their own resumes and associated data through strict user_id filtering in all queries.
- **Secure Password Storage:**
- Confirmed that no plaintext passwords are stored; only securely hashed passwords (PBKDF2-SHA256 with salt) are maintained.
- **Session Security:**
- Session cookies are signed and protected against tampering, ensuring secure authentication handling.

8. Conclusion

This paper presented ResumeBuilder, a full-stack web application designed for efficient resume creation and management. The system successfully achieves its stated objectives:

1. Structured Resume Organization:
2. Users can systematically organize their professional information into well-defined sections such as personal details, education, experience, skills, and projects, reflecting standard resume formats.
3. Dynamic Customization:
4. The application enables users to create and manage multiple resumes tailored to different job roles, with flexible section editing and template-based layouts.
5. Real-Time Preview:
6. The integrated live preview system provides immediate visual feedback, allowing users to design and refine resumes efficiently without repeated manual formatting.
7. Secure Multi-User System:
8. Session-based authentication combined with password hashing ensures data privacy and secure access for individual users.
9. Modern User Experience:
10. The responsive, theme-aware interface with smooth interactions and intuitive controls delivers a professional and user-friendly experience comparable to commercial resume-building platforms.

9. Future Scope

The following enhancements are proposed for future development of ResumeBuilder:

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1. Collaborative Resume Editing:
   Enable multiple users (e.g., mentors, peers) to collaborate on resume creation with role-based permissions such as owner, editor, and viewer.

2. AI-Powered Resume Suggestions:
   Integrate machine learning models to analyze job descriptions and suggest relevant skills, keywords, and content improvements for better ATS (Applicant Tracking System) compatibility.

3. Smart Content Optimization:
   Implement intelligent feedback systems to improve grammar, formatting, and impact of resume bullet points using NLP techniques.

4. Rich-Text Editor Support:
   Replace basic input fields with a Markdown or WYSIWYG editor supporting advanced formatting, hyperlinks, and embedded media.

5. Job Portal Integration:
   Enable direct integration with platforms like LinkedIn and Indeed to import profile data or apply for jobs directly.

6. Progressive Web App (PWA):
   Add offline support, push notifications, and installable app features using service workers and web app manifests.

7. Mobile Native Applications:
   Develop companion mobile apps using frameworks such as React Native or Flutter for Android and iOS platforms.

8. Advanced Analytics:
   Provide insights such as resume performance tracking, keyword match scores, and recruiter engagement metrics.

9. Cloud Synchronization:
   Upgrade from SQLite to scalable databases like PostgreSQL and enable real-time data synchronization across devices.

10. Template Marketplace:
    Introduce a library or marketplace of professionally designed templates, including user-generated contributions.

11. Gamification Features:
    Add achievement badges, profile completion scores, and milestones to encourage users to build stronger resumes.

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References

1. Bohnert, D., & Ross, W. H. (2010). *The influence of social networking web sites on the evaluation of job candidates.* Cyberpsychology, Behavior, and Social Networking, 13(3), 341–347.
2. Miguel Grinberg (2018). *Flask Web Development: Developing Web Applications with Python* (2nd ed.). O'Reilly Media.
3. Michał Jaworski, & Tarek Ziadé (2016). *Expert Python Programming* (2nd ed.). Packt Publishing.
4. Michael Mikowski, & Josh Powell (2013). *Single Page Web Applications: JavaScript End-to-End.* Manning Publications.
5. Nicola Dragoni et al. (2017). *Microservices: Yesterday, Today, and Tomorrow.* In *Present and Ulterior Software Engineering* (pp. 195–216). Springer.
6. Oppenheimer, D. M. (2006). *Consequences of erudite vernacular utilized irrespective of necessity: Problems with using long words needlessly.* Applied Cognitive Psychology, 20(2), 139–156.
7. Internet Engineering Task Force (2015). *RFC 7519 — JSON Web Token (JWT).*
8. Pallets Projects (2024). *Flask Documentation.* https://flask.palletsprojects.com/
9. Pallets Projects (2024). *Werkzeug Documentation — Security Helpers.* https://werkzeug.palletsprojects.com/
10. SQLite Consortium (2024). *SQLite Documentation.* https://www.sqlite.org/docs.html
11. Mozilla (2024). *Fetch API Documentation.* https://developer.mozilla.org/en-US/docs/Web/API/Fetch_API
12. Mozilla (2024). *HTML Drag and Drop API.* https://developer.mozilla.org/en-US/docs/Web/API/HTML_Drag_and_Drop_API
13. Mozilla (2024). *Web Audio API.* https://developer.mozilla.org/en-US/docs/Web/API/Web_Audio_API
14. Google (2024). *Google Fonts — Inter Typeface.* https://fonts.google.com/specimen/Inter
15. Render (2024). *Render — Cloud Application Hosting.* https://render.com/