



# In Her Purse: A Safety-Aware Benefits-Navigation Platform for Survivors of Economic Abuse

The 4<sup>th</sup> HSSPF

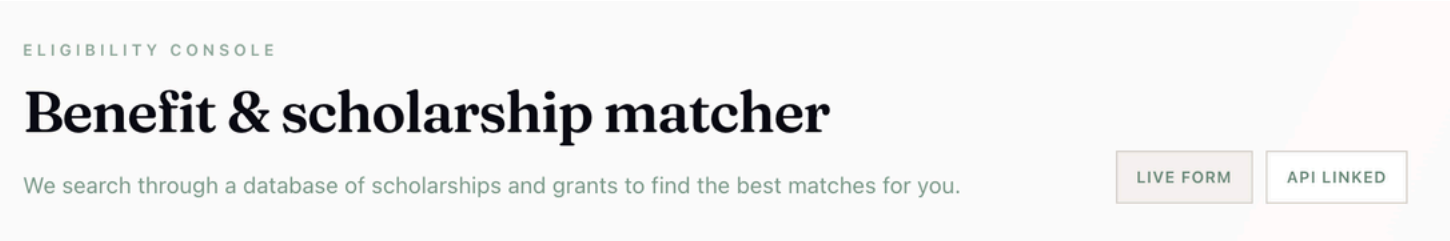
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## Motivation

- Economic abuse can limit access to financial benefits and resources, making it harder for survivors to achieve financial independence [1, 2].
- Abuse can also disrupt employment and income, further restricting access to benefits [3–5].
- Benefit-matching tools can help survivors find and access relevant financial resources.

## Design Principles

- The user is able to describe her situation in her own words, without naming specific agencies or categories.
- Each blank field is treated as an unknown, not as an immediate assumption.
- Each resulted match is provided with an explanation instead of plainly a calculated score.
- The system asks for as little as possible, no login or credentials required.



Access webpage and fill in profile

Outputs results of qualified listings

**Your profile**

How do you prefer to be contacted? (e.g., email, text, phone)

Personal Information

Age:

State:

ZIP code:

Citizenship status:

Ethnicity/Background:

Education (optional)

Current grade/year:

GPA:

Major/area of study:

Are you currently a student? ☐

Annual household income (if any):

Employment status:

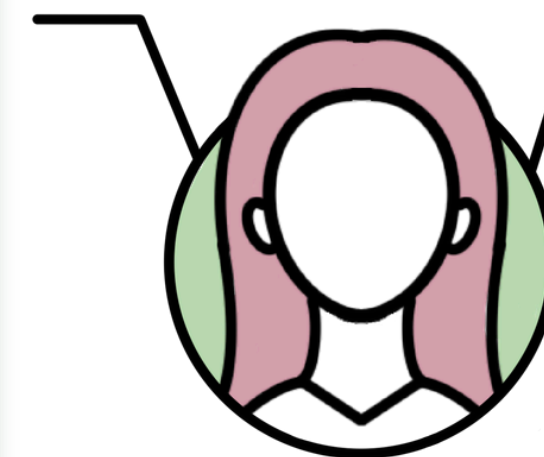
Are you currently employed? ☐

Additional contact information:

Any other details or questions:

**Match Engine**

The Match Engine will be used to find the best matches for your profile. It will be used to find the best matches for your profile. It will be used to find the best matches for your profile.



Matching using bulk listings and APIs

**Results**

10 matches found

Filter

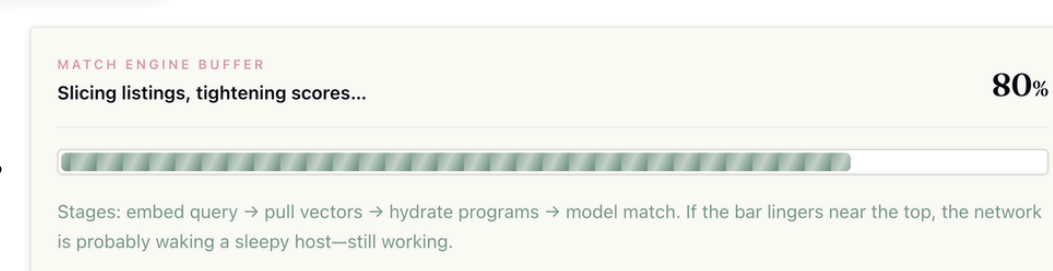
Relevance

**Supportive Housing for Persons with Disabilities**

REQUIREMENTS: You must be a U.S. Citizen, have a disability, and household income is below 50% AMI. Check program for: (e.g., household income)

How to apply: Submit a Request for a Fund Reservation via [button]

TIME DEADLINE: 10/15/2023



## Evaluation and Testing

30 personas: pre-recognition, currently in, recent escape, long term recovery  
131 most common programs into need domains: housing accounted for 23.9% of all results, Employment 22.6%, and Education 21.9%, followed by Income (11.1%), Health (5.4%), and Legal/Safety (4.7%).

| Stage              | n  | Returned | Mean per run | Full/Strong | Domains (Mean) | Individual facing |
|--------------------|----|----------|--------------|-------------|----------------|-------------------|
| Pre-Recognition    | 7  | 69       | 9.9          | 27          | 3.1            | 91%               |
| Currently in       | 8  | 80       | 10.0         | 6           | 4.2            | 69%               |
| Recent Escape      | 8  | 80       | 10.0         | 19          | 4.1            | 78%               |
| Long Term Recovery | 7  | 68       | 9.7          | 15          | 4.0            | 75%               |
| Total              | 30 | 297      | 9.9          | 67          | 3.9            | 78%               |

## Data

4489 official assistance listings

SAM.gov

grants.gov

California Grants

## Storage



- Title
- Agency
- Eligibility text
- Links

## Frontend

Matches are cached so repeated queries are quicker

NEXT.js



## Retrieval

OpenAI's text-embedding-3-small

Free-text description

Completed fields

1 query string

Comparison via cosine similarity

Pinecone listing embeddings

GPT-Based eligibility analyst

~ 25 listings

## Analysis

Full Match

Strong Match

Partial Match

Top 10 results are shown.

P11: Currently in, disability

P16: Recently escaped

P20: Recently escaped, disability

P21: Recently escaped

P22: Recently escaped, veteran

P08: Currently in, Spanish

Housing / Rental Assistance

Disability Insurance

Family Unification

Unemployment Insurance

Veteran State Grants

Domestic Violence Assistance

## References

- [1] Adams et al. 2008. Development of the Scale of Economic Abuse. Violence Against Women 14, 5 (563–588). <https://doi.org/10.1177/1077801208315529>
- [2] Postmus et al. 2016. Measuring Economic Abuse in the Lives of Survivors: Revising the Scale of Economic Abuse. Violence Against Women 22, 6 (692–703). <https://doi.org/10.1177/1077801215610012>
- [3] Blom et al. 2025. Employment Consequences of Intimate Partner Violence and Abuse: A Systematic Review. Trauma, Violence, & Abuse. <https://doi.org/10.1177/15248380251395105>
- [4] Borchers et al. 2016. Employment Maintenance and Intimate Partner Violence. Workplace Health & Safety 64, 10 (469–478). <https://doi.org/10.1177/2165079916644008>
- [5] Showalter et al. 2021. A Qualitative Study of Intimate Partner Violence and Employment Instability. Journal of Interpersonal Violence 36, 23–24 (NP12730–NP12755). <https://doi.org/10.1177/0886260520903140>

Presented by Shannon Zhang, San Jose, California

Shannon is a senior at Lynbrook High School, whose work spans machine learning, economic research, software development, and human-centered design. She co-founded In Her Purse, an international nonprofit supporting immigrant women's financial independence, and publishes both mobile apps and research papers in machine learning. She hopes to pursue computer science and economics in college.

Acknowledgments:



CEISMC  
Georgia Tech Center for Education Integrating  
Science, Mathematics, and Computing

