

**2 research and technical specialists in the scientific project  
"Smart-Contract Protocols: Theory for Applications" (PROCONTRA)  
financed by the European Commission (grant agreement no 885666)  
Principal Investigator: Stefan Dziembowski**

The ERC project "Smart-Contract Protocols: Theory for Applications" (PROCONTRA), led by prof. dr hab. Stefan Dziembowski offers two research and technical specialist positions in the Institute of Informatics at the Faculty of Mathematics, Informatics, and Mechanics of the University of Warsaw.

### **Terms of employment**

Selected candidates will be employed in a research assistant position (pol. *Specjalista badawczo-techniczny*) on 85% of the working time. The duration of employment is two years, with possible prolongation for another two years. The expected starting date is around the 1<sup>st</sup> of October 2023, up to an agreement between the candidate and the principal investigator. The offered salary combined (basic salary approx. PLN 4 100 gross/month plus project bonus) is around PLN 7 140 gross/month). The position comes with no teaching obligations and a generous travel budget. The selected candidates will work on problems in cryptography with applications to blockchain and smart contracts.

### **Description of the project**

Project PROCONTRA focuses on studying challenging problems in smart contracts and blockchain. The main emphasis is on fundamental cryptographic techniques. The work within the project will concentrate on the following three directions:

- Modeling security properties of the smart-contract protocols using cryptographic formalism.
- Proposing new ideas for smart contract protocols, especially those based on advanced cryptographic techniques.
- Prototype implementations of protocols based on smart contracts.
- Security proofs of the proposed constructions.
- Automated verification of these security proofs
- Understanding the limitations of cryptographic techniques in this area.

### **Requirements**

We expect that candidates at the moment of employment hold an MSc degree in either mathematics or computer science, have an excellent background in both, and have at least one year of professional experience. A good command of English, a good understanding of basic theoretical concepts, the ability to program in languages such as Python and Rust, and experience working with practical blockchain projects are required.

## **Applications**

The application for the competition should include a **curriculum vitae** that:

- describes the candidate's background and academic achievements, along with a description of programming skills and experience with practical blockchain projects;
- provides a list of all the candidate's scientific publications (including yet unpublished manuscripts), if the candidate has them;
- identifies one experienced scientist or blockchain technology engineer who can provide references for the candidate.

## **Responsibilities**

The responsibilities of the person who will fill this position will include

- Reviewing literature on issues related to PROCONTRA project topics
- Interaction with the blockchain practitioner community,
- Prototype implementations of protocols based on smart contracts.
- Experiments on performance testing of these implementations.
- Proposing theoretical improvements to the implemented protocols.
- Editing of scientific results in English

In addition to the above, there should be a scan of the **signed personal data clause** (attached). No research statements are required.

Applications, as well as further questions on both the scientific topic of the project and on formal details of the call procedure, should be directed to prof dr hab. Stefan Dziembowski:

**[s.dziembowski+procontra@uw.edu.pl](mailto:s.dziembowski+procontra@uw.edu.pl)**

To apply for the position, candidates should send an e-mail and submit the documents as attached .pdf files.

**Application deadline: 20<sup>th</sup> of September, 2023**

Applications that do not satisfy the above requirements or are submitted after the deadline will not be considered for the position.

The applications will be evaluated by a selection committee appointed by the Dean of the Faculty of Mathematics, Informatics, and Mechanics, University of Warsaw. The committee may invite the candidate to a meeting, which will be conducted remotely. The results of the competition will be sent to candidates electronically on 31<sup>st</sup> of October, 2023 at the latest.

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given and family name

## **Information on personal data processing**

### **Controller**

Controller of your personal data processed in connection with the recruitment process is the University of Warsaw, ul. Krakowskie Przedmieście 26/28, 00-927 Warszawa, as the Employer.

Contact with the controller:

- by traditional mail at: University of Warsaw, ul. Krakowskie Przedmieście 26/28, 00-927 Warszawa (name the organizational unit to which your letter is addressed);
- by phone: 22 55 20 355.

### **Data Protection Officer (DPO)**

Controller has designated Data Protection Officer whom you may contact via email at [iod@adm.uw.edu.pl](mailto:iod@adm.uw.edu.pl). You may contact the DPO in all matters relating to your personal data processing by the University of Warsaw and the exercise of rights in relation to the processing of personal data.

The DPO, however, does not proceed other matters, like handling recruitment procedures, collecting recruitment documents, providing information on current recruitment process.

### **Purpose and legal grounds of data processing**

Personal data of candidates for employment shall be processed for recruitment purposes only.

Your personal data shall be processed in the scope as indicated by employment law<sup>1</sup> (*given name (names) and family name, date of birth, contact information as provided, education, professional qualifications, previous employment*) for the purposes of this recruitment process<sup>2</sup>, whereas other data<sup>3</sup> shall be processed based on your consent which may take the following wording:

*I agree to the processing of personal data provided in CV and other submitted documents by the University of Warsaw for realising my recruitment process.*

If your documents include data as mentioned in Art. 9 section 1 of the GDPR (special categories of personal data), processing shall be possible upon your consent to processing such data<sup>4</sup> which may take the following wording:

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<sup>1</sup> Art. 22<sup>1</sup> of the law of June 26, 1974 Labour Code (i.e. Journal of Laws 2019 item 1040 with subsequent changes);

<sup>2</sup> Art. 6 section 1 letter b of the Regulation of the European Parliament and the Council (EU) 2016/679 of April 27, 2016 on protection of individual persons with regard to the personal data processing and on the free flow of such data, and also repealing Directive 95/46/EC (general regulation on data protection) (Official Journal EU L 119 of 04.05.2016, page 1, with subsequent changes) (hereinafter as the GDPR);

<sup>3</sup> Art. 6 section 1 letter a of the GDPR;

<sup>4</sup> Art. 9 section 2 letter a GDPR;

*I agree to the processing of special categories of personal data, as mentioned in Art. 9 section 1 of the GDPR, provided in CV and other submitted documents) by the University of Warsaw for realising my recruitment process.*

The University of Warsaw shall be also processing your personal data in future recruitment processes upon your consent<sup>5</sup> which may take the following wording:

*I consent to processing of my personal data for the purposes of any future recruitment processes at the University of Warsaw for the period of the next nine months.*

You may revoke all such consents at any time by, for example, sending an email at [konkursy@mimuw.edu.pl](mailto:konkursy@mimuw.edu.pl)

Be advised that the revocation of your consent does not affect legal compliance of processing which had been completed upon consent before its revocation.<sup>6</sup>

### **Data retention period**

Your personal data collected in this recruitment process shall be stored over the period of three months from the date the recruitment process is completed.

In case you agree to process your data in future recruitments, your data shall be used over the period of nine months.

### **Data recipients**

Officers authorized by the Controller shall have access to your personal data, the processing of which is in the scope of their duties.

~~Recipients of personal data may be other subjects obligated by the Controller to provide specific services involving data processing, like~~

.....  
(~~name all recipients of data~~)

### **Data transfer outside the European Economic Area (EEA)**

Your personal data shall be disclosed to subjects authorized by law. Signing-in is through Google Forms. Your personal data may be also processed by our provider of G-Suit for education by Google Company in their data processing centres.<sup>7</sup> Your data shall be protected under the standards of the Privacy Shield, accepted by the European Commission.<sup>8</sup> This shall guarantee an adequate level of data security.

### **Rights of the data subject**

Under the GDPR data subjects have the following rights:

- to access data and to receive copies of the actual data;

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<sup>5</sup> Art. 6 section 1 letter a GDPR;

<sup>6</sup> Art. 7 section 3 GDPR;

<sup>7</sup> <https://www.google.com/about/datacenters/inside/locations/index.html>

<sup>8</sup> <https://www.privacyshield.gov>

- *to* correct (rectify) your personal data;
- to restrict processing of personal data;
- to erase personal data, subject to provisions of Art. 17 section 3 of the GDPR;
- to file a claim with the President of the Personal Data Protection Office, if you believe data processing violates law.

**Information on the requirement to provide data**

Providing your personal data in the scope resulting from law is necessary to participate in the recruitment process. Providing other personal data is voluntary.

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place and date

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applicant's signature