

Zorislav Šojat

Short Biography

Zorislav Sojat (Shoyat), born 1960 in Zagreb (Croatia), is a professor of General Linguistics and Socio-Humanistic Informatics. His overall main area of interest is Cybernetics applied to all areas of human endeavour.

He started working with computers in 1974 on a HP2000 Timesharing System, and has worked also on some computers from early 1960-ies, including programming a relay-based computer (with external programme).

Scientific articles he is publishing from 1976 onwards. In 1970-ies and 1980-ies his prime scientific interest was in intelligence research and application of selforganisation principles on computer learning, as well as the use of linguistics in computing and computers in linguistics. In this area he developed an experimental selforganising language-learning computer programme. On Mannheim University (DE) he was doing preparatory work for a bidirectional German-Croatian computer dictionary.

During the late 1970-ies he constructed several microcomputer systems, primarily oriented for use in "electronic classrooms", for interactive programmed education. During early 1980-ies he constructed a mid-range computer workstation for scientific and business applications, IVEL Z3, which was the first professional microcomputer produced in former Yugoslavia.

Early 1980-ies he authored the first word-frequency Dictionary of Croatian newspaper language, in large part computer-generated.

In that time he was also an active member of the Association Internationale de Cybernetique in Namur (B), was a co-founder of TAKIS (World Association for Cybernetics, Informatics and Systemics), and held numerous lectures on congresses and conferences around Europe.

Mid 1980-ies he developed a distributed multi-microcomputer system for centralised radar-data-collected interactive air-traffic mapping and surveillance. He also implemented enhanced versions of programming languages Lisp, APL, Pascal and Pilot (language for Computer Aided Education).

In the second part of 1980-ies he was working at RBK in Deventer, Holland, where he developed a complete microcomputer based industrial control system, including an appropriate operating system and compiler, specifically for the food processing industry. As of 2018 several of those systems were still used in active production processes.

Late 1980-ies he spent in London, UK, at the Imperial College of Science and Technology, where he was working on firmware for CNC machines and robots. During that time he was the President of the Subcommittee for Robot Languages of the British Standards Institute.

From 1991 until 1999 he was lecturing Information Science at the Zagreb University Faculty of Philosophy.

During that time he also developed one of the first position mapping applications using GPS for use in cars, with Solid Computer from Munich, Germany. For Ericsson (SE) he developed the mobile client for early versions of EVO (Ericsson Virtual Office). He was developing a WAP browser for the first Sendo (UK) smartphone, and for the Blaupunkt (DE) "Internet Radio". For Navstar (UK) he co-authored a patent of a principle for radio-wave reception-time synchronisation, and for ST Microelectronics a (Bluetooth based) system for hypertext device interaction.

He invented and implemented several Computer Languages, including FilTru (for use in data-stream filtering and monitoring), HIPE (for inter-device remote control), and, still in active development, Virtue (Virtual Interactive Resource Tasking Environment), a semantically extremely rich language system for huge array manipulation in multi-processor parallel environments.

From 2003 until present he is active in the Centre for Informatics and Computing of the Ruder Boskovic Institute in Zagreb (HR), and was part of numerous European projects. He was also working on the development of CroGRID (Croatian Grid Infrastructure), the SeeGRID (South-East European Grid) and EGEE (Enabling Grids for E-science) projects. For the E2LP (Electrical Engineering Learning Platform) project he implemented the historical Cray-1 supercomputer

processor on a Xilinx FPGA. He was also the Leader of Focus Group High Productivity Computing of the NESUS (Network of Sustainable Ultrascale Computing) EU COST action.

From 2003, with his wife Gordana, he is active in the field of Light Art, in which artistic field they had more than 150 exhibitions and performances, of them several in India. For their artistic needs they invented several light-art projection devices with special optical systems, including the "Lightwell", a musical instrument which produces light instead of sound, controlled by a distributed network of SOCs (System-On-a-Chip-s).

Last several years he is very much involved in the expanding field of Dew-Computing, and is a member of the IEEE DewCom STC. His main interest is presently primarily in the Cloud/Fog/Dew Computing hierarchy, Smart Ecosystems, Computer Linguistics and specifically Philosophy of Computing. He authored and coauthored several books, over 100 articles and several patents in the fields of Linguistics, Cybernetics, Economy, Archeology, Information Science, Philosophy, Etics, Astronomy, Diplomacy, Computer Science, etc. He speaks fluently Croatian, English and German, and can converse in Italian, Dutch, French and Esperanto.