

CURRICULUM VITAE

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Professional Summary

Dr. Izzet Turkalp Akbaslı is an experienced medical doctor with profound expertise in pediatric critical care and artificial intelligence. He has amassed extensive experience in clinical practice, research, and innovation, focusing on enhancing healthcare outcomes through technology. Dr. Akbaslı obtained his medical and pediatric specializations from İnönü University and Hacettepe University, respectively, and holds a Master's degree in autoinflammatory diseases. He currently practices pediatric care at Polatlı Duatepe State Hospital and conducts research on AI applications in medicine at Hacettepe University. Additionally, for over two years, he has been actively serving as an editor for the Journal of Pediatric Critical Care.

Dr. Akbaslı possesses in-depth knowledge in artificial intelligence and machine learning, contributing to various projects and scientific publications in these fields. His recent research includes developing personalized transfusion strategies for critically ill children, creating applications to forecast overcrowding in pediatric emergency rooms, and working on intelligent triage applications using large language models to reduce waiting times in pediatric emergency rooms. His professional skills include problem-solving, active learning, multitasking, and agility, while his technical proficiencies cover machine learning, deep learning, time series analysis, large language models, and cloud infrastructure.

Education and Academic Achievements

1. MD, Medicine

İnönü University, 2010-2017

2. Residency, Pediatrics

Hacettepe University, 2018-2023
Special focus on critical care.

3. Master of Science,

Autoinflammatory Diseases
Hacettepe University, 2019-2021

Professional Experience

1. Pediatrician

Polatlı Duatepe State Hospital, 2023 - Present

Focus on pediatric care and machine learning applications in medicine.

2. Machine Learning Scientist (Medium)

GOHM Tech, 2023 - Present

Focus on artificial intelligence and machine learning applications in various technological domains.

3. Editor

Journal of Pediatric Intensive Care, 2021-Present

Active Contributor to the Journal of Pediatric Intensive Care since 2021, focusing on a broad range of topics within pediatric critical care, encompassing various aspects and advancements in the field.

4. General Practitioner

Emergency Department of Taksim First Aid Hospital, 2017 - 2018

Managed emergency cases in one of Turkey's busiest hospitals.

Scientific Publications and Presentations

1. Scientific Publications

- a. **Akbasli, I. T.** and Bayrakci, B. (2023). Balancing caution and innovation: exploring the potential of large language models in critical decision-making. *Critical Care*, 27(1). <https://doi.org/10.1186/s13054-023-04447-0>
- b. **Akbasli I.T**, Saritas Nakip, O., Kesici, S., Topaloglu, R., Kutluk, T., Bayrakci, B., PP092 [Extracorporeal Support» Renal replacement therapies]: TREATMENT OF METHOTREXATE TOXICITY WITH CONVENTIONAL HEMODIALYSIS: A PEDIATRIC CASE SERIES. *Pediatric Critical Care Medicine*: November 2022 - Volume 23 - Issue Supplement 1 11S - doi: <https://doi.org/10.1097/01.pcc.0000900284.09750.3d>
- c. Ünlü, A., Yılmaz, S., **Akbasli, I.T.**, Karaagac Akyol, T., Akkapulu, N., Tumer, M., Ertugrul Oruc, N., Balas, S., Goral, S., Topcuoglu, P., Tanriseven, M., Sayin, S. and Eryilmaz, M. (2021), MATRA-A: A study on massive transfusion. *Vox Sang*, 116: 880-886. <https://doi.org/10.1111/vox.13082>

2. Book Chapters

- a. Robert M. Kliegman MD , Joseph W. St Geme MD , Nathan J. Blum MD et al Nelson Textbook of Pediatrics 21th ed. (2020), Chapter 688, Arthropod Bites and Infestations, (IT. Akbasli, Trans), Elseiver Health Science, ISBN: 9789752778511

- b. Robert M. Kliegman MD , Joseph W. St Geme MD , Nathan J. Blum MD et al Nelson Textbook of Pediatrics 21th ed. (2020), Chapter 689, Acne, (IT. Akbasli, Trans), Elseiver Health Science, ISBN: 9789752778511
- c. Robert M. Kliegman MD , Joseph W. St Geme MD , Nathan J. Blum MD et al Nelson Textbook of Pediatrics 21th ed. (2020), Chapter 690, Tumors of the Skin, (IT. Akbasli, Trans), Elseiver Health Science, ISBN: 9789752778511
- d. Robert M. Kliegman MD , Joseph W. St Geme MD , Nathan J. Blum MD et al Nelson Textbook of Pediatrics 21th ed. (2020), Chapter 691, Nutritional Dermatoses, (IT. Akbasli, Trans), Elseiver Health Science, ISBN: 9789752778511
- e. Terry Dean, Jr., Louis Bell, Joseph W. St. Geme III, Nelson Pediatrics Board Review 1th ed., Chapter 72, Common Orthopedic Injuries, (I. T. Akbasli, trans), Elseiver Health Science, ISBN: 9786257146296X
- f. Terry Dean, Jr., Louis Bell, Joseph W. St. Geme III, Nelson Pediatrics Board Review 1th ed., Chapter 73, Selected Topics in Orthopedics, (I. T. Akbasli, trans), Elseiver Health Science, ISBN: 9786257146296X

3. Oral presentations

- a. 11th International Europaediatrics Congress (EPA/UNEPSA), “Is It Possible to Forecast Overcrowding in Pediatric Emergency Departments Using Artificial Intelligence?”, Oral presentation, Antalya, 2024
- b. 11th International Europaediatrics Congress (EPA/UNEPSA), “AI-Based Personalized Transfusion Strategies in Critically Ill Children”, Oral presentation, Antalya, 2024
- c. 19th National Pediatric Emergency an Intensive Care Assoc. Congress, “Identification of Conditions Requiring Erythrocyte Suspension Transfusion in Pediatric Intensive Care Units and the Development of an Artificial Intelligence-Based Clinical Decision Support Mechanism”, Oral presentation, Antalya, 2023
- d. 19th National Pediatric Emergency an Intensive Care Assoc. Congress, “Forecasting Overcrowding in Pediatric Emergency Departments Using Dynamic Time Series Analyses”, Oral presentation, Antalya, 2023
- e. 18th National Pediatric Emergency an Intensive Care Assoc. Congress, “Predicting Prognosis and Facilitating Early Intervention in Hospitalized Pneumonia Patients Using an Artificial Intelligence-Based Decision Support System”, Oral presentation, Antalya, 2022
- f. 5th One Day of Pediatrician Congress, National Pediatric Association, “Treatment of Methotrexate Intoxication Post High-Dose Methotrexate Therapy with Conventional Hemodialysis: The First Pediatric Case Series.”, Oral presentation, Girne, 2022

4. Poster presentations

- a. 19th National Pediatric Emergency an Intensive Care Assoc. Congress, “Factors Influencing the Time to Erythrocyte Suspension Transfusion in Pediatric Intensive Care Units.”, Poster presentation, Antalya, 2023
- b. 18th National Pediatric Emergency an Intensive Care Assoc. Congress, “Interaction Between Stem Cells and AN69 Membrane Commonly Used in Renal Replacement Therapies”, Poster presentation, Antalya, 2022

- c. 18th National Pediatric Emergency and Intensive Care Assoc. Congress, “A Rare Cause of Hemorrhagic Shock: Dog Attack”, Poster presentation, Antalya, 2022
- d. 5th One Day of Pediatrician Congress, National Pediatric Association, “Primary Hypertrophic Osteoarthropathy”, Poster presentation, Girne, KKTC, 2022
- e. 11th International WFPICCS 2022, “Treatment of methotrexate toxicity with conventional hemodialysis: a pediatric case series”, Poster presentation, Cape Town, Virtual, 2022
- f. 11th International WFPICCS 2022, “Intracardiac thrombosis complicating to the pediatric catastrophic antiphospholipid antibody syndrome”, Poster presentation, Cape Town, Virtual, 2022

5. Ongoing and Unpublished Projects

1. PQTx (2021-Present)

Objective: Determining blood transfusion requirements for critically ill children using personalized algorithms, ensuring timely and appropriate transfusions to improve patient care quality.

Role: Backend Developer, MLOps Developer

2. ForPEDER (2023-Present)

Objective: Forecasting pediatric emergency room admissions with AI to prevent overcrowding.

Role: Backend Developer, MLOps Developer

3. GPT-PEDER (2023-Present)

Objective: A fine-tuned GPT model for pediatric emergency room doctors, using EHR data of pediatric emergency room admissions.

Role: Backend Developer, MLOps Developer, Prompt Engineering

4. PEDERApp (2023-Present)

Objective: An application for diagnosing appendicitis from CT images in pediatric emergency room admissions.

Role: ML Engineer

5. FreshSense (2022-Present)

Objective: Enhancing the storage durations of agricultural products using AI methods to optimize profitability.

Role: Backend Developer, ML Engineer

6. IEOt (2023-Present)

Objective: Accurately predicting hourly orders for restaurants to prepare accordingly, reducing food waste and contributing to sustainability.

Role: Backend Developer, ML Engineer, Frontend Developer, MLOps Developer

7. PACMAB (2023)

Objective: Providing clinical decision support to doctors working in earthquake zones and forecasting regional needs.

Role: Frontend Developer, Backend Developer

8. Hellobaby (2023-Present)

Objective: Categorizing infants' crying sounds to aid parents.

Role: Frontend Developer, Backend Developer

9. MurmurDr (2023-Present)

Objective: Creating estimated echocardiography (ECHO) diagnoses for newborns based on stethoscope sound recordings, serving as a clinical decision support mechanism in centers without ECHO facilities. Essentially a congenital heart disease screening application.

Role: ML Engineer

10. EchoPLAX-Seg (2022-2023)

Objective: A deep learning project for segmenting echocardiography (ECHO) parasternal long-axis (PLAX) view images into six primary heart structures using a U-Net inspired full convolutional network (FCN) architecture.

Role: ML Engineer

6. Awards and Recognitions

1. Special Jury Award, Google's Artificial Intelligence Competition, 2022
2. Financial support for the web application "depemdoktor.com" from AWS, 2023

7. Workshops, Courses, and Certifications

1. 11th International Europaediatrics Congress (EPA/UNEPSA), Antalya, 2024
2. 19th National Pediatric Emergency and Intensive Care Assoc. Congress, Antalya, 2023
3. Amazon Web Service Machine Learning Operations (MLOps) Boot Camp, Virtual, 2023
4. Amazon Web Service Development and Operations (DevOps) Practitioner Boot Camp, Virtual, 2023
5. Congenital Heart Disease on Cardiac Intensive Care Unit National Workshop, Istanbul, 2022
6. 18th National Pediatric Emergency and Intensive Care Assoc. Congress, Antalya, 2022
7. Point-of-Care Bed Side Ultrasound Course (POCUS), Pediatric Emergency and Intensive Care Association of Turkey, 2022
8. Pediatric Paracorporeal and Extracorporeal Therapies, Texas Children Hospital, Virtual, 2022
9. DataThon 2022, Ministry of Transport and Infrastructure, BTK Academy & Google, 2022, Ankara

10. 5th One Day of Pediatrician Congress, National Pediatric Association, 2022, Girne
11. 11th International WFPICCS 2022, Cape Town, 2022, Virtual
12. Artificial Intelligence Workshop, Ministry of Transport and Infrastructure, BTK Academy & Google, Ankara, 2021
13. International Cancer Control Workshop: “Building Cancer Control Beyond the COVID Pandemic”, Virtual, 2021
14. 3rd Vaccine Congress, Children Infection and Immunization Associations, Virtual, 2021
15. Counselling for Breastfeeding Practitioner, Hacettepe University, Ankara, 2021
16. Animal Use in Experimental Research, Gülhane Military Medical Academy, Ankara, 2020
17. Airway emergencies Course, Hacettepe University, Ankara, 2020
18. 1st One Day of Pediatrician Congress, National Pediatric Association, Virtual, 2020
19. Medical Ethic Course, Hacettepe University, Ankara, 2019
20. Medical Biostatistics Course, Ankara, 2019
21. Patient Safety & Interprofessional Collaboration Course, Hacettepe University, Ankara, 2019
22. Pediatric Advanced Life Support Course, Hacettepe University, Ankara, 2018
23. Neonatal Resuscitation Program Course, Hacettepe University, Ankara, 2018
24. Health Ministry, “Critical Obstetrics Care Symposium”, Antalya, 2018
25. TÜBİTAK, Ecology based nature education in Göksu valley and delta, Mersin, 2010
26. EU Council, Comenius Project, Lichen and Atmospheric Pollution, Léon, Spain, 2009
27. TÜBİTAK Mathematics Olympics for Primary Schools, Konya, 2005

8. Skills and Technical Proficiencies

1. Technical Skills:

Machine Learning, Deep Learning, Data Visualization, Time Series Analysis (PyTorch), Big Data, Data Mining, Cloud Infrastructure (AWS, GCP, OCI), Database management (MySQL, MongoDB, PostgreSQL, RDS, DynamoDB, Redshift), Large Language Model Fine Tuning, RAG, LangChain, Docker, React

2. Programming Languages:

Python, R, JavaScript, HTML, CSS, SQL

3. Soft Skills:

Problem-Solving, Active Learning, Multitasking Abilities, Agile

9. References

Prof. Benan Bayrakci MD

Email: bbenan@yahoo.com

Department: Hacettepe University,
Faculty of Medicine,
Department of Pediatric Intensive Care Unit

Position: Department Chair

Location: Ankara, Turkey

Prof. Vehbi Çađrı Güngör

Email: cagrigungor@gmail.com

Company: Turkcell

Position: Chief Technology Officer

Location: İstanbul, Turkey

Prof. Asım Egemen Yılmaz

Email: aeyilmaz@eng.ankara.edu.tr

Department: Ankara University,
Graduate School of Natural Sciences

Department of Interdisciplinary Artificial Intelligence Technologies

Position: Department Chair

Location: Ankara, Turkey